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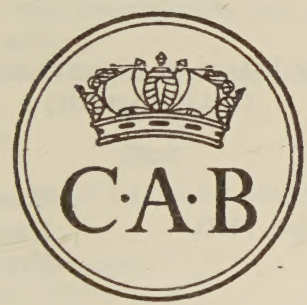
HELMINTHOLOGICAL ABSTRACTS

incorporating

BIBLIOGRAPHY OF HELMINTHOLOGY

COMPILED FROM WORLD LITERATURE OF 1951



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Helminthological Abstracts
incorporating
Bibliography of Helminthology

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FOR THE YEAR 1951

Vol. 20, Part 5

629—Acta Haematologica Japonica.

*a. NAKAJIMA, A., 1951.—"Observations on hematopoietic organs in ancylostomiasis." 14 (2), 51–63.

(629a) Nakajima studied bone marrow punctures and the peripheral blood in 21 cases of ancylostomiasis and 15 cases of other types of blood dyscrasia and compares his findings. In ancylostomiasis the bone marrow showed less hyperplasia, there was a shift to the left of the leucocytes and a delay in maturation of the protoplasm and granules. He concludes that ancylostomiasis is a form of intoxication. [Based on an abstract in *Biol. Abs.*, **26** (4), No. 10218.] S.W.

630—Acta Medica Italica di Malattie Infettive e Parassitarie.

a. CHIEFFI, G. & BASSO, M., 1951.—"Indagine sulla diffusione delle parassitosi intestinali: osservazioni in una collettività militare." 6 (12), 344–348. [English, French & German summaries p. 348.]

(630a) During a study of the incidence of intestinal parasitism, 0·4% of 994 military personnel from various regions in Italy were found to harbour hookworm. R.T.L.

631—Acta Medica Scandinavica. Supplementum.

a. BONSDORFF, B. VON & GORDIN, R., 1951.—"Oral administration of vitamin B12 in pernicious tapeworm anemia. *Diphyllobothrium latum* and pernicious anemia XII." 140, Suppl. 259, pp. 112–122.

b. CASTEX, M. R. & CAPDEHOURAT, E. L., 1951.—"Medical treatment of pulmonary hydatic cysts." [Abstract of paper presented at 1st International Congress of Internal Medicine, Paris, September 11–14, 1950.] 140, Suppl. 259, p. 288.

(631a) Vitamin B_{12} (Cobione) and a liver extract (Heptomin) were given by the mouth to eight patients suffering from *Diphyllobothrium latum* anaemia. There was no response in three cases whether these were given alone or with normal human gastric juice. In the five other cases a good remission occurred when gastric juice was not given. Some evidence was obtained that meat alone had a beneficial effect. These results are held to confirm the view that vitamin B_{12} is identical with a factor contained in liver and that this may act as the "extrinsic factor" R.T.L.

(631b) [A fuller account of this paper was published in *Brit. med. J.*, 1950, **2** (4679), 604–606.]

632—Acta Neurochirurgica. Vienna.

a. OBRADOR, S. & LEY, E., 1951.—"Personal experience with cerebral cysticercosis." 1 (4/5), 434–441. [French, German, Italian & Spanish summaries pp. 440–441.]

b. UCAR, S., 1951.—"Quistes hidatídicos del cerebro." 1 (4/5), 519.

* Titles so marked throughout this number have not been seen in the original.

633—Acta Pathologica Japonica.

a. SHINOZAKI, T. & HASHIMOTO, N., 1951.—" Immunological study with fluid in body-cavity of pig-*Ascaris*." 1 (4), 237–246.

(633a) Shinozaki & Hashimoto describe the inflammatory reactions produced in immunized and non-immunized laboratory rats by the subcutaneous injection of perienteric fluid from pig Ascaris. Observations were made 30 mins. and 1, 2, 5, 10, 24, 48 and 72 hours after injection. When Ascaris larvae were placed in immune serum precipitates were formed at the anal and oral openings in a manner similar to that described by other workers. S.W.

634—Acta Veterinaria. Belgrade.

a. NEVENIĆ, V. & MARKOVIĆ, D., 1951.—[La chèvre comme un hôte intermédiaire pour *Taenia serialis* (Gervais 1847).] 1 (1), 128–131. [In Russian : French summary p. 131.]

(634a) Three instances of *Multiceps serialis* infection were observed in 3,000 goats slaughtered at Belgrade. In one case the cyst occurred in the connective tissue of the kidney, in the second case on the heart and in the third in the muscles attached to the knee. It is concluded from these findings that *M. serialis* is probably not uncommon in dogs in Macedonia and Kosmet. R.T.L.

635—Acta Veterinaria. Budapest.

a. BORAI, J., 1951.—[Atebrin a suitable drug against tapeworms in dogs.] 1 (3), 279–285. [In Russian : English summary p. 285.]

b. KOBULEI, T., 1951.—[On the incidence of *Rictularia affinis* Jägerskiöld, 1904 in the Hungarian red fox, with a redescription of this species.] 1 (4), 395–404. [In Russian : English summary p. 404.]

(635a) Atebrin in gelatin capsules when given to dogs, in a dose based on 0·04 gm. per kg. body-weight, successfully removed all Taenia and Dipylidium infections. Before treatment the animals were starved for half a day. After treatment 15–30 gm. of castor oil or 10–20 gm. of Epsom salts were administered and food was withheld for eight to ten hours. R.T.L.

(635b) Specimens of *Rictularia affinis* were collected from two out of 30 *Vulpes vulpes* in Hungary. The topography of the cephalic end receives considerable attention. Three pairs of caudal alae, hitherto overlooked, are considered to be of generic importance. Kobulei does not agree with Hall on the specific significance of the caudal fans in the male as their number is not constant. R.T.L.

636—Acta Zoologica et Oecologica, Universitatis Lodziensis.

a. KLEKOWSKA, Z., 1951.—" Badania nad rozrodczością pijawek z rodzaju *Erpobdella* de Blainville." Sectio III, No. 18, 40 pp. [French & Russian summaries pp. 35–38.]

(636a) The formation and the various stages in deposition of cocoons is similar in *Erpobdella lineata, E. octoculata, E. monostriata, E. testacea* and *E. testacea* f. *nigricollis*. The cocoons of *E. monostriata* and *E. testacea* f. *nigricollis* are described for the first time. The operculum of that of *E. octoculata* is of a spongy texture. The influence of the food supply of leeches on their cocoons and the seasonal variation in deposition was studied. *E. octoculata* is the most prolific species in the inland waters of Poland. P.M.B.

637—Advisory Leaflet. Ministry of Agriculture and Fisheries. London.

a. ANON., 1951.—" Potato tuber eelworm." No. 372, 3 pp. [Revision of 1950 Leaflet.]

638—Afrique Française Chirurgicale.

a. COSTANTINI, H., 1951.—"Le kyste hydatique en Algérie." Year 1951, No. 1, pp. 13–18.
b. COSTANTINI, H., BOURGEON, R. & PIETRI, 1951.—"Kyste hydatique du foie." Year 1951, No. 1, pp. 58–61.
c. COSTANTINI, H., BOURGEON & PIETRI, 1951.—"Double kyste hydatique du foie. Fistule biliaire totale par compression du canal hépatique. Cholangiographie révélatrice." Year 1951, No. 1, pp. 64–66.
d. LIARAS, H., 1951.—"Le traitement du kyste hydatique pulmonaire par la méthode de Pérez-Fontana." Year 1951, No. 2, pp. 77–80.
e. BOURGEON, PIETRI & PANTIN, 1951.—"Un cas de pneumokyste du foie.—Etude du comblement de la cavité par la cholangiographie après marsupialisation." Year 1951, No. 2, pp. 85–89.
f. COSTANTINI, BOURGEON & PIETRI, 1951.—"Lithiase vésiculaire cholédocienne et kyste hydatique du foie.—Utilité de la cholangiographie." Year 1951, No. 2, pp. 91–94.
g. BOURGEON, STOPPA & PLANE, 1951.—"Volumineux pyo-pneumokyste hydatique du foie.—Guérison simple par kystectomie." Year 1951, No. 2, pp. 112–113.
h. ALQUIE & SICARD, 1951.—"Traitement des kystes hydatiques du poumon ouverts dans les bronches." Year 1951, No. 3, pp. 135–139.
i. BREHANT, J., 1951.—"Traitement chirurgical des kystes hydatiques pulmonaires." Year 1951, No. 3, pp. 141–148.
j. COUNIOT, J., 1951.—"Le traitement des kystes hydatiques suppurés du poumon." Year 1951, No. 3, pp. 149–160.
k. GUEDJ, P., CALLIGE, P. & MONTANDON, F., 1951.—"Traitement chirurgical du kyste hydatique du poumon et de ses complications. A propos de 60 observations." Year 1951, No. 3, pp. 161–167.
l. KOVACEVIC & KRATIC, 1951.—"Le problème de l'échinococcose pulmonaire." Year 1951, No. 3, pp. 169–172.
m. KOURIAS, B., 1951.—"Pneumothorax spontané chronique et kyste hydatique du poumon." Year 1951, No. 3, pp. 173–178.
n. LEVI-VALENSI, A., ZAFFRAN, A. & MIGUERES, P., 1951.—"Kyste hydatique et bronchoscopie." Year 1951, No. 3, pp. 179–180.
o. LIARAS, H. & HOUEL, J., 1951.—"Le traitement de l'échinococcose pulmonaire (119 cas de kystes hydatiques du poumon, opérés)." Year 1951, No. 3, pp. 181–190.
p. LOUBEYRE, J., FARKAS, E. & GRANGAUD, M. P., 1951.—"Sur un cas d'échinococcose pulmonaire métastatique." Year 1951, No. 3, pp. 191–192.
q. MACCAS, M. & KOURIAS, B., 1951.—"Notre expérience du traitement chirurgical des kystes hydatiques du poumon, d'après 450 cas opérés." Year 1951, No. 3, pp. 193–199.
r. MIMOUNI, J., 1951.—"Connexions de l'échinococcose primitive et avec le système bronchoalvéolaire et avec la plèvre. Données bronchographiques et bronchoscopiques." Year 1951, No. 3, pp. 201–210.
s. REDI, R., 1951.—"Traitement chirurgical de l'échinococcose pulmonaire. Clinique chirurgicale de l'Université de Cagliari." Year 1951, No. 3, pp. 211–212.
t. RENAULD, J. M., 1951.—"Traitement chirurgical du kyste hydatique pleuro-pulmonaire. Intérêt de l'aspiration endo-cavitaire post-opératoire après ablation de kystes volumineux." Year 1951, No. 3, pp. 213–216.
u. TOOLE, H., 1951.—"La tuberculose pulmonaire post-opératoire à la suite du traitement chirurgical du kyste hydatique du poumon." Year 1951, No. 3, pp. 217–220. [Discussion p. 221.]
v. BOURGEON, R., 1951.—"Kyste hydatique du foie et voies biliaires." Year 1951, No. 3, pp. 223–228.
w. BOURGEON, HUGUENIN & PIETRI, 1951.—"La suture endokystique d'emblée des importantes fistules biliaires." Year 1951, No. 3, pp. 229–231.
x. BREHANT, 1951.—"A propos de la kystectomie." Year 1951, No. 3, p. 232.
y. COSTANTINI, H., 1951.—"La place de la kystectomie dans la chirurgie des kystes hydatiques du foie." Year 1951, No. 3, pp. 233–236.
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ba. GOINARD, P., 1951.—"Sur l'épiplooplastie intra-cavitaire." Year 1951, No. 3, pp. 243–244.
bb. KOURIAS, 1951.—"L'influence des progrès de la médecine actuelle sur l'évolution de la chirurgie des kystes hydatiques du foie." Year 1951, No. 3, pp. 245–250.
bc. LEBON, J. & EISENBETH, R., 1951.—"Le foie est-il indifférent à la présence d'un kyste hydatique? A propos de certains aspects histologiques observés au voisinage et à distance de l'hydatide." Year 1951, No. 3, pp. 251–252.
bd. NOTE, 1951.—"Epiplooplastie intra-cavitaire et kystes hydatiques du foie." Year 1951, No. 3, pp. 253–259.
be. PIETRI, H., 1951.—"Cholangiographie et kystocholangiographie dans la chirurgie du kyste hydatique du foie." Year 1951, No. 3, pp. 261–265.
bf. RIVES, 1951.—"La membrane périkystique du foie." Year 1951, No. 3, pp. 267–270.

638—Afrique Française Chirurgicale (cont.)

bg. SEROR, 1951.—" Kyste hydatique suppuré du foie. Greffe placentaire." Year 1951, No. 3, pp. 271–273.
bh. AUBRY, G., BOULARD, C., PORTIER, A. & MASSONNAT, J., 1951.—" Remarques cliniques sur 'infantilisme hydatique'." Year 1951, No. 4, pp. 275–281.
bi. BENHAMOU, SEROR & ALBOU, 1951.—" Kyste hydatique de l'épiploon gastro-splénique." Year 1951, No. 4, p. 282.
bj. BUTORI, 1951.—" De la kystectomie dans l'hydatidose rénale." Year 1951, No. 4, pp. 283–284.
bk. BUTORI, 1951.—" Une complication exceptionnelle du kyste hydatique du foie : l'infarctus du rein." Year 1951, No. 4, p. 284.
bl. CORCOS, A., DELASTRE, R., MOKKADEM, S. & ABITBOL, S., 1951.—" Volumineux kyste hydatique du cou. Ponction d'urgence. Intervention secondaire. Guérison." Year 1951, No. 4, pp. 285–286.
bm. DARDILL, 1951.—" Trois cas d'échinococcose osseuse." Year 1951, No. 4, pp. 287–290.
bn. DELVOYE, 1951.—" Deux kystes hydatiques osseux." Year 1951, No. 4, pp. 291–292.
bo. GENTIL, F. & CONDE, J., 1951.—" Quelques localisations rares du kyste hydatique." Year 1951, No. 4, pp. 293–300.
bp. GOINARD & DESCUNS, 1951.—" Les kystes hydatiques du cerveau." Year 1951, No. 4, pp. 301–302.
bq. MARILL, 1951.—" Sur une forme particulière du pseudo mal de Pott hydatique : 'l'échinococcose vertébro-costale'." Year 1951, No. 4, pp. 303–308.
br. CALVO MELENDRO, J., 1951.—" Infantilisme hydatique." Year 1951, No. 4, pp. 309–314.
bs. NOTE, 1951.—" L'échinococcose abdomino-pelvienne." Year 1951, No. 4, pp. 315–319.
bt. OULIE & GRASSET, 1951.—" Echinococcose diffuse de l'os iliaque. Désarticulation inter-ilio-abdominale subtotale. Résultat dix ans après." Year 1951, No. 4, pp. 321–323.
bu. PANTIN, 1951.—" A propos du traitement des kystes hydatiques des os longs." Year 1951, No. 4, pp. 325–326.
bv. SEROR, 1951.—" Péritonite encapsulante et kyste hydatique pelvien." Year 1951, No. 4, pp. 327–329.
bw. SEROR, 1951.—" Kystes hydatiques primitifs du sein." Year 1951, No. 4, pp. 330–331.
bx. SEROR, 1951.—" Sur un cas d'échinococcose secondaire du péritoine." Year 1951, No. 4, pp. 332–334.
by. SIROT, L., 1951.—" Aspects modernes de la chirurgie des kystes hydatiques de la rate." Year 1951, No. 4, pp. 335–340.
bz. SURRACO, 1951.—" Kystes hydatiques sous-péritonéaux." Year 1951, No. 4, p. 341.
ca. STOJANOVIĆ, V. & VUJADINOVIĆ, B., 1951.—" Nos expériences en clinique et le traitement chirurgical de kystes hydatiques de localisations diverses." Year 1951, No. 4, pp. 342–350.
cb. SURRACO, 1951.—" Les kystes hydatiques du rein." Year 1951, No. 4, pp. 351–352.
cc. THIODET, J. & MICHAUX, P., 1951.—" Aspects médico-légal et médico-social de l'échinococcose." Year 1951, No. 4, pp. 353–363.
cd. THIODET, J. & FOURRIER, A., 1951.—" L'allergie hydatique." Year 1951, No. 4, pp. 364–369.
ce. TOULANT, P., LARMANDE, A. & TOULANT, 1951.—" Difficulté du diagnostic du kyste hydatique de l'orbite." Year 1951, No. 4, pp. 370–373.
cf. BALDONIER, A., 1951.—" L'échinococcose en Uruguay." Year 1951, No. 4, p. 374.

(638bh) A form of infantilism due to chronic hydatid poisoning is common in Algeria. Only 16 records of this condition are recorded in medical literature. Clinical data on 6 additional cases are now reported. R.T.L.

(638br) The existence of Dévé's hydatid infantilism is confirmed. Of 15 cases observed, in five which are reported upon in detail the patient developed normally after the removal of the hydatid cyst. R.T.L.

(638cc) This communication draws attention to the difficult medico-legal, medico-social and professional problems which may arise in cases of hydatid infection in man, e.g. sudden death due to the development of the cyst, the relation between traumatism and rupture of the cyst, and the legal responsibility of a person causing the rupture (particularly where this occurs during employment) and of a medical attendant who has made an exploratory puncture of a suspected cyst. The recognition of hydatid as a trade risk carrying the right to indemnity in various countries is discussed. R.T.L.

638—Afrique Française Chirurgicale (cont.)

cg. BREGANTE, J. L., 1951.—" Fréquence de l'hydatidose chez les bovins (*Bos taurus*) en Uruguay." Year 1951, No. 4, pp. 375–378.
ch. COUSI, 1951.—" L'échinococcose en Tunisie." Year 1951, No. 4, pp. 379–386.
ci. DELVOYE, 1951.—" Remarques statistiques et techniques sur le kyste hydatique dans les hôpitaux militaires de l'Algérie." Year 1951, No. 4, pp. 387–391.
cj. DUNGAL, 1951.—" Disparition de la maladie hydatique en Islande." Year 1951, No. 4, pp. 392–397.
ck. MORELL, G., 1951.—" La prophylaxie du kyste hydatique en Algérie." Year 1951, No. 4, pp. 398–407.
cl. MACCAS, 1951.—" Statistique de l'échinococcose humaine en Grèce." Year 1951, No. 4, pp. 408–415. [Discussion p. 416.]
cm. CALVO MELENDRO, J., 1951.—" L'échinococcose en Espagne." Year 1951, No. 4, pp. 417–420.
cn. SENEVET, G., 1951.—" Epidémiologie du kyste hydatique en Afrique du Nord." Year 1951, No. 4, pp. 421–426.
co. SUIĆ, M., 1951.—" L'échinococcose en Yougoslavie." Year 1951, No. 4, pp. 427–430.
cp. POU, M. C. ET AL., 1951.—" La direction de l'élevage de l'Uruguay et la lutte contre l'échinococcose. (Rapport de la Commission de la Direction de l'Elevage.)" Year 1951, No. 4, pp. 431–432.
cq. ZOTTNER, G., 1951.—" Prophylaxie vétérinaire de l'échinococcose au Maroc." Year 1951, No. 4, pp. 433–437.
cr. ZEISSIG, A., 1951.—" La prophylaxie de l'hydatidose." Year 1951, No. 4, pp. 438–440.

(638cg) Of 220,951 cattle examined at abattoirs attached to the refrigeration establishments in Uruguay 71,525 (i.e. 32%) had hydatids. A table shows that in 23% of the infected carcasses the cysts were located in the liver and in 17% in the lungs. The incidence in cattle from the various states is also tabulated. In the northern zone it averaged 26% and in the southern zone 29%. R.T.L.

(638ch) As jackals are very numerous in Tunisia it is probable, although not yet demonstrated, that they contribute to the spread of hydatid. Of the cattle over eight years old 100% have cysts in the liver and lung. Although sheep are less commonly infected than cattle they are probably the most important intermediate host, as the cysts more frequently contain fertile scolices. R.T.L.

(638cj) Dungal gives an account of the early history of hydatid in Iceland and of the steps taken by the Government to eradicate the disease. Only after 1930 were autopsies regularly made. Between 1930 and 1950 the number of autopsies was 2,172; hydatids were found in 79. Only five of the cases had been born after 1890 and none in the present century. Although Krabbe in 1863 found *Echinococcus granulosus* in 28 out of 100 dogs more recent data is lacking. No precise information is available on the degree of animal infection with hydatid. During the past three or four decades abattoirs have been constructed throughout the country and dogs are strictly excluded. All dogs in rural areas must be treated annually with a vermifuge. All hydatid cysts must be burned. It is illegal to slaughter sheep except in the abattoirs. Since the beginning of the century lambs have been slaughtered in the autumn; this brief life of four or five months does not allow sufficient time for the development of fertile cysts. The other and most important contribution to the successful suppression of hydatid disease has been the thorough education of the rural population on the subject. R.T.L.

(638co) In Yugoslavia hydatid is especially prevalent in Dalmatia, Herzegovina and Montenegro. Between 1920 and 1930, 951 cases were treated in hospitals; of these 531 originated in Dalmatia. Between 1930 and 1947 there were 2,504 cases; 52% originated in Dalmatia where in certain villages morbidity reached 4% of the population. The district of Split is the most severely affected. In Slovenia, Bosnia and western Serbia hydatid is rare. Pre-war statistics indicated that 98% of dogs at Sinj in Dalmatia harboured *Echinococcus granulosus*. During 1949 the percentage of infection in animals of one year or more in the Dalmatian butchers' shops was cattle 51%, sheep 45%, pigs 67% and goats 18% and the total amount of meat confiscated on account of hydatid in Dalmatia reached about 250,000 kg. R.T.L.

639—Agricultural Research. Taiwan.

a. CHEN, Y. K. & LEE, Y. C., 1951.—[Studies on the medical treatment of the roundworm in pig. (Report of investigation of pig parasite in China, America, and Japan is attached).] 2 (3), 53–58. [In Chinese : English summary p. 58.]

640—Agriculture Pakistan.

*a. SARWAR, M. M. & NAWAZ, M., 1951.—"*Ascaris vitulorum*, a parasite of great economic importance to buffalo breeding." 2, 71–75.

641—Agronomía Tropical. Maracay.

a. BAIN, F. M. & FEDÓN C., S. A., 1951.—"Investigaciones sobre anillo rojo del cocotero." 1 (2), 103–130.

(641a) Red ring disease of coconut palms associated with the nematode *Aphelenchus* [*Aphelenchoides*] *cocophilus* is serious in Venezuela. Bain & Fedón review the published work on the disease, describe the symptoms and give an account of their inoculation experiments. Fruiting and non-fruiting palms of different ages were inoculated by the placing of infested material either around the roots or in the axils of the crown leaves. Results showed that infestation is not by way of the roots but takes place in the leaf axils; symptoms became obvious after about 2 months. The nematodes do not pass from tree to tree by way of the soil but are carried by ants and by *Rhyncophorus palmarum*. The ants which are normally found on plants in flower are common in the leaf axils of palms at the most susceptible age and are said to travel from tree to tree in search of food. The problem of control of red ring disease is an entomological one, it being necessary to control the ants as well as to burn infested palms. One palm tree in the experiments showed a high degree of resistance to the disease. M.T.F.

642—American Journal of Medicine.

a. DAVIS, W. M. & MOST, H., 1951.—" Trichinosis. Case report with observations of the effect of adrenocorticotropic hormone." 11 (5), 639–644.

(642a) A case of acute severe trichinosis showed a fair correlation between the course and severity of the illness and the prognosis with the degree of infection. Clinical improvement coincided with the administration of ACTH. The eosinophilia slowly fell and there was a progressive rise in antibodies. Its use in future cases to assess its possible beneficial role is suggested. R.T.L.

643—American Midland Naturalist.

a. SCHILLER, E. L., 1951.—"*Hymenolepis hopkinsi*, n.sp., a cestode from the black duck." 45 (1), 253–256.

(643a) Several specimens of *Hymenolepis hopkinsi* n.sp. were found in association with *H. fausti* which frequently occurs in *Anas rubripes* from Horicon Marsh, Wisconsin. Like *H. jägerskiöldi* the new species has a U-shaped uterus containing a small number of eggs. This feature, together with an unusually long slender rostellum and the size and shape of the hooks, differentiates it from all other species of *Hymenolepis*. R.T.L.

644—Anais da Faculdade de Ciências do Porto.

a. DOLLFUS, R. P. & THÉODORIDÈS, J., 1951.—" Premier cas de parasitisme d'un strepsiptère par un nématode." 35 (4), 270–271.

(644a) The occurrence of a larval mermithid in *Eoxenos laboulbenei* is recorded for the first time. The parasite measured 0·73 mm. in length. R.T.L.

645—Anais da Faculdade de Medicina da Universidade de São Paulo.

a. COUTINHO, J. O., 1951.—" Indices de infestação natural dos planorbideos pelas cercárias do *Schistosoma mansoni* na cidade do Salvador—Bahia." **25**, 29–53. [English summary p. 40.]
b. COUTINHO, J. O. & SILVANY FILHO, A., 1951.—" Notas sôbre um inquérito coprológico efetuado em pacientes internados no Hospital de Santa Izabel, Salvador, Bahia." **25**, 55–64. [English summary p. 63.]

(645b) Single faecal examinations of 500 patients at the Santa Izabel Hospital in Salvador showed an incidence of schistosomiasis mansoni of 45·91% in those from the city and 52·3% in those from the interior of the State of Bahia. The highest incidence (55%) occurred between the ages of 21 and 30 years and the lowest (25%) in patients over 60 years of age. Intradermal tests with specific antigen on 437 of the patients indicated 72·31% positive. The authors compare their results with those of other investigators in the same area. P.M.B.

646—Anais do Instituto de Medicina Tropical. Lisbon.

a. PINTO, A. R., 1951.—" Novos focos de schistosomiase vesical da Guiné Portuguesa." **8** (3), 397–399. [English & French summaries p. 399.]
b. RODHAIN, J., 1951.—" Les adénolymphocèles du Congo Belge." **8** (3), 503–515.

(646a) New foci of schistosomiasis haematobia in 22 villages in Portuguese Guinea, along the Cacheu and Geba Rivers and their tributaries, are listed and indicated on a folding map. Only children between the ages of nine and twelve years were examined. Schistosomiasis mansoni is still unknown in Portuguese Guinea. P.M.B.

(646b) Rodhain describes and illustrates with photomicrographs various manifestations of filariasis of the groin and Scarpa's triangle due to *Wuchereria bancrofti* and *Onchocerca volvulus* termed "adenolymphocoeles" which he observed in the Belgian Congo. Those arising from infection with *W. bancrofti* are of two types, one corresponding to Manson's "varicose groin glands"; the other, in which the hypertrophied glands are sclerosed to varying degrees, is associated with the presence of adult worms (alive or dead) in the glands themselves or in the immediate vicinity. In infections due to *O. volvulus* the hypertrophied glands are always hard and the manifestation termed "adenolymphocoele" should in reality be described as "sclerosing hypertrophic adenopathy". A localized elephantiasis of the skin is frequently observed. The evolution of the syndrome associated with *O. volvulus* has not yet been fully elucidated. P.M.B.

647—Anales de la Facultad de Veterinaria de la Universidad de Madrid.

a. TARAZONA VILAS, J. M., 1951.—" Acción del fluoruro de sodio en la bronquitis verminosa del cerdo." **3**, 103–108. [English, French & German summaries pp. 107–108.]

(647a) In preliminary *in vitro* tests sodium fluoride was 100% lethal to *Metastrongylus apri* in one minute in a 2% solution but was less effective at lower concentrations. In six infected pigs treated with 10 c.c. of a 5% solution of sodium fluoride intratracheally all symptoms disappeared and when the animals were slaughtered three months after treatment there was no sign of infection in the lungs. P.M.B.

648—Anales del Instituto de Biología. Mexico.

a. CABALLERO Y C., E., 1951.—" Un nemátodo nuevo del altiplano del Estado de Chiapas." **22** (2), 485–490.
b. CABALLERO Y C., E., 1951.—" Helmintos de la República de Panamá. I. Algunos aspectos morfológicos de la extremidad caudal de *Ophidascaris trichuriformis* Vaz, 1935. (Nematoda : Ascaroidea)." **22** (2), 491–495.
c. BRAVO HOLLIS, M., 1951.—" Acerca de un nuevo tremátodo del orden Monogenea van Beneden, 1858." **22** (2), 497–503.

d. ZERECERO Y DÍAZ, M. C., 1951.—" *Mesocoelium travassosi* Pereira y Cuocolo, 1940 (Trematoda : Dicrocoeliidae), en una lagartija del género *Eumeces*." 22 (2), 505–512.

(648a) *Oxyspirura* (*Oxyspirura*) *cochlearispiculata* n.sp., described and figured from *Cassiculus melanoicterus* captured at Tuxtla Gutiérrez, Chiapas, differs from *O.* (*O.*) *peipingensis* and *O.* (*O.*) *schulzi* in the formation of the shorter spicule. R.T.L.

(648b) Caballero redescribes *Ophidascaris trichuriformis* from two specimens collected from *Erythrolamprus* sp. The pre-anal papillae numbered 32 and 40 pairs in the two specimens and each had 11 pairs of post-anal papillae, whereas in Vaz's original description there were 30 to 40 pairs of pre-anals and 6 pairs of post-anals. The spicules are equal in size and shape; the proximal end is broad and the distal end rounded. P.M.B.

(648c) *Benedenia jaliscana* n.sp. from the gills of *Epinephellus labriformis* is distinguished from other species of the genus by the position and structure of the vagina and of the hooks on the adhesive disc, and by the presence of three well developed terminal hooks on the cirrus. P.M.B.

(648d) *Mesocoelium travassosi* is redescribed and figured from *Eumeces* sp. collected at Cuicatlán, Oaxaca, Mexico. R.T.L.

649—Anales de Medicina Pública. Santa Fé.

*a. NÁJERA, L. E., 1951.—" Epidemiología de las cisticercosis : observaciones sobre un caso humano de ladrería y otro diagnosticado erroneamente de hidatidosis múltiple subcutanea." 3 (1/4), 299–352.

*b. NEGHME, A. & SOTOMAYOR, R., 1951.—" Participación del médico-cirujano y del hospital de la prevención de la hidatidosis." 3 (1/4), 399–407.

650—Analytical Chemistry.

a. HASKINS, W. T., 1951.—" Colorimetric determination of microgram quantities of sodium and copper pentachlorophenates." 23 (11), 1672–1674.

(650a) As an aid to the study of the molluscicidal properties of sodium and copper pentachlorophenates in natural waters, a modification of Wallin's method provides a simple and rapid technique for determining concentrations of 1 to 100 p.p.m. in a 5 ml. sample. For use in the field it is adapted to reading the results with colour standards. A more precise spectrophotometric method for use in the laboratory is also described. R.T.L.

651—Anatomical Record.

†a. DAUGHERTY, J. W., 1951.—" Transaminase activity in *Fasciola hepatica*." 111 (3), 445.

†b. VAN CLEAVE, H. J., 1951.—" Speciation and formation of genera in the Acanthocephala." 111 (3), 525–526.

†c. STUNKARD, H. W. & HINCHLIFFE, M. C., 1951.—" The life-cycle of *Microbilharzia variglandis* (= *Cercaria variglandis* Miller and Northup, 1926), an avian schistosome whose larvae produce 'swimmer's itch' of ocean beaches." 111 (3), 529–530.

†d. DOUGHERTY, E. C. & KEITH, D. F., 1951.—" The axenic cultivation of *Rhabditis briggsae* on a dialysed liver protein fraction with known supplementation." 111 (3), 571.

†e. WALTON, A. C., 1951.—" Parasites of the Amphibia. Cestoda." 111 (3), 581.

†f. PATTEN, J. A., 1951.—" The life cycle of the dicrocoeliid trematode, *Conspicuum icteridorum*." 111 (3), 583–584.

†g. ULMER, M. J., 1951.—" Studies on brachylaemid metacercariae (Trematoda : Brachylaemidae). Morphological features of *Brachylaemus virginiana* metacercariae and migration route of cercariae in the second intermediate host." 111 (3), 584.

(651a) [A fuller account of this paper appears in *Exp. Parasit.*, 1952, **1**, 331–338. For abstract see Helm. Abs., **21**, No. 385a.]

(651c) [A fuller account of this paper appears in *J. Parasit.*, 1952, **38**, 248–265. For abstract see Helm. Abs., **21**, No. 101f.]

† Abstract of paper to be presented at the 48th Annual Meeting of the American Society of Zoologists, Philadelphia, December 27–30, 1951.

(651d) Dougherty & Keith find that when *Rhabditis briggsae* is grown on a medium containing extract of horse liver (LE) as a source of factor Rb the addition of a mixture of known vitamins, mineral salts, dextrose and acetate is essential for reproduction. If the LE fraction is dissolved in distilled water instead of buffer it tends to precipitate in the final medium and does not support growth of *R. briggsae*. It remains to be proved that the presence of individual vitamins is essential and that purines and pyrimidines are not essential for growth and reproduction. S.W.

(651f) [A fuller account of this paper appears in *J. Parasit.*, 1952, **38**, 165–182. For abstract see Helm. Abs., **21**, No. 20bd.]

(651g) In *Polygyra thyroidus* the cercariae of *Brachylaemus virginiana* migrate through the renal aperture and ureters to the kidney, remaining there as metacercariae until the snail is eaten by the definitive host. Snails naturally infected with *Postharmostomum helicis* as well as *B. virginiana* have been found. S.W.

652—Annales Chirurgiae et Gynaecologiae Fenniae.

a. VIIKARI, S. J., 1951.—"Occlusion due to the fish tapeworm." **40** (3), 199–201.

(652a) Although Ascaris has been reported on several occasions as a cause of intestinal obstruction, occlusion by *Diphyllobothrium latum* is very rare. Two instances are now recorded by Viikari. In one of these, pieces of digested worm were present in the abdominal cavity. Both patients recovered after removal of the worm through an incision of the gut wall. R.T.L.

653—Annales d'Hygiène Publique, Industrielle et Sociale.

a. NAVARRE, P., 1951.—"Trichinose." **29**, 220–223.

654—Annales de Médecine Vétérinaire.

a. FLORENT, H., 1951.—"La bronchite vermineuse ; son traitement." **95** (5), 270–272.
b. GRÉGOIRE, C., 1951.—"Bronchite vermineuse des bovidés. Epidémiologie ; son incidence sur le traitement." **95** (8), 481–490.

(654a) Cattle, particularly young stock, with verminous bronchitis showed a marked improvement in condition following intravenous injections of Antimosan. Florent considers that this is the remedy of choice, both in view of its antiparasitic action and its beneficial effect on the animal's condition. P.M.B.

(654b) Grégoire discusses and quotes at some length Wetzel's study on the epidemiology of *Dictyocaulus viviparus* [for abstract see Helm. Abs., **17**, No. 204b]. From his own observations on a herd of about 150 store cattle frequently exposed to reinfection, he found that two intratracheal injections given at the end of June with an interval of eight days between had a remarkably good effect. He refers to good results obtained with injections of gammexane and suggests that its slow action could be counteracted by using it together with a synthetic pyrethrin. P.M.B.

655—Annales Medicinae Internae Fenniae.

a. TELKKÄ, A., WAHLSTRÖM, S. & KOULUMIES, R., 1951.—"Eosinophil response to ACTH and adrenaline in patients infested with fish tapeworm (*Diphyllobothrium latum*)." **40** (4), 305–310.

(655a) In 33 cases of *Diphyllobothrium latum* infection, of whom 12 suffered from macrocytic anaemia, the majority gave the normal result, i.e. a fall of over 50%, to the Thorn eosinophil test. The result became even clearer with ACTH than when adrenaline was used. In those with anaemia, the response was somewhat weaker than in the ordinary cases which reacted like uninfected persons to adrenaline and ACTH. In the control tests with saline injections there was an average fall of 22% and in four instances of over 50% in the number of eosinophils. R.T.L.

656—Annales Musei Zoologici Polonici.

a. STEFAŃSKI, W. & ŻARNOWSKI, E., 1951.—"*Ascaris procyonis* n.sp. provenant de l'intestin de *Procyon lotor* L." 14 (15), 199–202. [Polish summary p. 202.]

(656a) Specimens of Ascaris found in the intestine of a *Procyon lotor* which died in the Zoological Garden at Lodz, Poland, are described and named *Ascaris procyonis* n.sp. This new species lacks the single median pre-anal papilla present in *A. lumbricoides* and *Parascaris equorum*. Its identity with *A. suricattae* Ortlepp, 1940, the description of which was inaccessible to the authors, is unlikely. R.T.L.

657—Annales Universitatis Mariae Curie-Skłodowska, Lublin.

a. ZARZYCKI, J., 1951.—"Zmiany histologiczne tkanki mięśniowej przy zakażeniu włośniami (*Trichinella spiralis*)." Sectio DD, 6 (7), 155–176. [English & Russian summaries pp. 175–176.]

(657a) Sections of the diaphragms of white mice experimentally infected with *Trichinella spiralis* showed that the larvae caused granular degeneration before penetration into the muscle fibres. They then enter the damaged fibres where they can be found on the seventh day. The granular degeneration is followed by coagulation necrosis, hyaline in character, which becomes vacuolated. Even before larvae are found in the muscle fibres a ceraceous degeneration may have already appeared as an indirect effect of the infection. The capsule of the encysted trichina is built up of hyaline degenerated connective tissue fibres. R.T.L.

658—Annali della Facoltà di Medicina Veterinaria. Pisa.

a. CASAROSA, L., 1951.—"Sulla infestione sperimentale nella cavia con uova embrionate di *Neoascaris vitulorum*. Nota preventiva." 4, 179–182. [English & French summaries p. 182.]

(658a) From experimental infections with *Neoascaris vitulorum* in guinea-pigs, Casarosa demonstrated "green spots" in the liver, lungs and kidneys. These are lesions due to the toxic traumatic irritant action of embryos of *N. vitulorum*, and are similar to those which he previously found in calves. P.M.B.

659—Annali Italiani di Chirurgia.

a. LATTERI, S., 1951.—"Cisti di echinococco del muscolo quadricipite." 28 (6), 357–366.

660—Antibiotics and Chemotherapy. Washington.

a. WELLS, H. S., SHOOKHOFF, H. B., MULLIN, W. G., STERMAN, M. M., LOUGHLIN, E. H. & RAPPAPORT, I., 1951.—"Terramycin HCl in the treatment of human pinworm infections." 1 (5), 299–304.

b. LOUGHLIN, E. H., RAPPAPORT, I., MULLIN, W. G., WELLS, H. S., JOSEPH, A. A. & SHOOKHOFF, H. B., 1951.—"The treatment of enterobiasis with terramycin base." 1 (9), 588–593.

(660a) Terramycin-HCl was administered in capsule form for periods of three weeks to 61 patients infected with *Enterobius vermicularis*. The dose rate was graded according to age. The tabulated preliminary results indicate that this antibiotic has an adverse effect on the infection and is more effective and better tolerated than gentian violet, but further investigations are needed to ascertain the optimum dosage. Diarrhoea developed in 20 of the cases, but in spite of this those patients who had previously taken gentian violet considered terramycin-HCl to be a more tolerable treatment. R.T.L.

(660b) Thirty patients under treatment with terramycin base for yaws were also infected with *Enterobius vermicularis*. The results were evaluated by the Scotch tape technique for 35 days after the completion of treatment. The terramycin base was given in single daily doses, graded according to age from 1 gm. to those under 5 years to 2 gm. to those over 10 years. All cases remained negative during 35 days after treatment except two in which live ova were found on one occasion each. The rapid decrease and ultimate

disappearance of the ova was preceded by a rapid regression in maturity and degenerative changes in the eggs and embryos a few days after treatment; this indicates a direct action on the gravid female worms as well as on the ova *in utero*. Twenty-two additional patients in 4 family groups received treatment for 6 days: all remained negative although examined for 35 days afterwards. It is claimed that terramycin base gave better results than those previously obtained with standard anthelmintics. There was no notable toxicity. R.T.L.

661—Antioquia Médica. Medellín.

a. QUEVEDO G., T., 1951.—"Ascaridiasis de las vías biliares." 1 (7), 436–465.

662—Antiseptic. Madras.

a. BHATTACHARJEE, J. N., 1951.—"Dysentry caused by round worm infection." 48 (11), 935–936.

663—Archiv für Psychiatrie und Nervenkrankheiten.

a. KUFS, H., 1951.—"Multiple Cysticerken im Gehirn und Entwicklung von unbefruchteten Bandwurmeiern in den Cysticerkenmembranen." 186 (4), 361–370.

664—Archives de Biologie. Paris.

a. PANIJEL, J. & PASTEELS, J., 1951.—"Analyse cytochimique de certains phénomènes de recharge en ribonucléoprotéines : le cas de l'oeuf de *Parascaris equorum* lors de la fécondation." 62 (3), 353–370.

(664a) Panijel & Pasteels describe some of the chemical changes which take place during fertilization in *Parascaris equorum*. The term "recharge" covers a complex combination of biochemical changes which mark the fertilization of the ovum. Changes in the spermatozoid during fertilization appear to be essentially the formation of a particular protein which allows the ovum to become recharged with basophilic ribonucleoproteins. The authors have demonstrated, spectrophotometrically and by centrifuging, that there are at least two stages to this process. S.W.

665—Archives Françaises de Pédiatrie.

a. GERMAIN, A. & MARTY, J., 1951.—"Ascaridiose grave chez un enfant de 18 mois." 8 (8), 886–887.

666—Archives des Maladies de l'Appareil Digestif et des Maladies de la Nutrition.

a. BUTTIAUX, R., TACQUET, A. & FLAMENT, J., 1951.—"Aspects nouveaux du parasitisme intestinal en France. Ankylostomose. Amibiase." 40 (6), 747–749. [Discussion pp. 749–751.]
b. FASSIO, E., 1951.—"Les syndromes douloureux épigastriques d'origine parasitaire." 40 (6), 801–805.
c. ADLERCREUTZ, E., 1951.—"*Diphyllobothrium latum* et anémie pernicieuse bothriocéphalique en Finlande." 40 (11), 1205–1206.
d. ROMAN, E., 1951.—"Incidence de l'oxyurose infantile dans la région lyonnaise depuis 1945." 40 (11), 1275–1277.
e. FASSIO, E., 1951.—"Aspects divers des duodénopathies parasitaires." 40 (11), Suppl. pp. 393–400.

(666a) In faecal samples from 177 soldiers who were repatriated in 1948 and 1949 from Indo-China and examined by Buttiaux *et al.* in 1950, hookworm was discovered in eight (4·5%). Eosinophilia ranged from 3% to 12%. P.M.B.

(666b) Fassio presents a classification of syndromes of epigastric pain of parasitic origin: (i) functional syndromes, under which are grouped pylorospasm, duodenal dyskinesia and biliary or bilio-pancreatic dystonia, (ii) inflammatory syndromes, (iii) allergic syndromes and (iv) obstructive troubles. P.M.B.

(666c) In Finland, 20% of the inhabitants are infected with *Diphyllobothrium latum*. Most of the cases occur in the eastern part of the country. The drug most frequently given is filicin. The anaemia can be cured, even if the tapeworm is not removed, by the administration of liver extract, pylorus extract or vitamin B_{12}, but this treatment should be maintained to prevent relapse. The administration of filicin is the only means to ensure a definite cure. R.T.L.

667—Archives d'Ophtalmologie.

a. APPELMANS, 1951.—"Les troubles visuels dans la trypanosomiase, la lèpre et l'onchocercose au Bas-Congo." 11 (8), 729–738.

(667a) Appelmans compares his findings during an investigation into ocular onchocerciasis in the Belgian Congo with those of other workers in different parts of Africa. At Leopoldville 35 men and 3 women with the disease were examined. Of these, 24 showed punctate keratitis, 7 iridocyclitis and 14 atrophy of the posterior pole; 10 were blind. Most were young workers but only three showed an epicranial nodule. During a single visit to Kinsuka (population about 1,000) many nodules were observed in adults and even in some children. The author confirms that although punctate keratitis is common, blindness is rare there. S.W.

668—Archives de Zoologie Expérimentale et Générale.

a. TUZET, O. & SANCHEZ, S., 1951.—"Sur l'acrosome du spermatozoïde de l'Ascaris." Notes et Revue No. 3, 88 (3), 142–148.

669—Archivio di Chirurgia del Torace.

a. FAVACCHIO, G., 1951.—"Localizzazione di cisti da echinococco nel mediastino." 8, 175–183.

670—Archivio "De Vecchi" per l'Anatomia Patologica e la Medicina Clinica.

a. STIGLIANI, R., 1951.—"Associazione di malattia di Nicolas-Favre e di infestazione schistosomica in sede vulvare." 17 (1), 89–103.
b. TAROCCHI, B., 1951.—"Rare concomitanze della cirrosi epatica (leucemia, morbo di Addison, tubercolosi epatica, poliposi gastrica, echinococco epatico, rottura del fegato in corso di cancrocirrosi)." 17 (1), 151–176.

(670a) A case from Bahia, Brazil, is described in which Nicolas-Favre disease was associated with vulvar schistosomiasis mansoni. On biopsy three adult male *Schistosoma mansoni* but no females or paired specimens were found, although very numerous eggs were present. P.M.B.

671—Archivio Italiano di Anatomia e Istologia Patologica.

a. BALDI, A., 1951.—"Avvelenamento da olio di chenopodio. Contributo sperimentale." 24 (4), 301–311. [English, French & German summaries p. 311.]

(671a) As a result of experimental dosing of rabbits with oil of chenopodium, Baldi concludes that the factors to be taken into consideration when examining the medico-legal aspects of cases of poisoning with this drug are: (i) the dosage and mode of administration, (ii) the constitution and state of health of the patient, (iii) the possibility of concomitant administration of substances liable to interfere with the normal action of the drug, particularly alcohol and (iv) the lack of specific anatomo-pathological symptoms. P.M.B.

672—Archivio Italiano di Pediatria e Puericoltura.

a. ROMUALDI, P., 1951.—"La cura della cisti di echinococco del polmone nel bambino." 15 (1), 45–76. [English, French & German summaries pp. 74–75.]

673—Archivio Italiano di Scienze Mediche Tropicali e di Parassitologia.

a. PARONI, F., 1951.—"Contributo radiologico allo studio dell'ascaridiosi." 32 (11), 1047–1056. [English, French & German summaries p. 1055.]

(673a) Paroni emphasizes the importance of radiological examination of the alimentary canal in the diagnosis of ascariasis in cases where no ova are present in the faeces. Several such cases are briefly described. P.M.B.

674—Archivio Veterinario Italiano.

a. BALDELLI, B., 1951.—"Ricerche sopra il contenuto istaminico di alcuni elminti (*Echinococcus polymorphus* Diesing 1850, *Neoascaris vitulorum* Goeze 1782, *Taenia hydatigena* Pallas 1766)." 2 (1), 63–70. [English, French, German & Spanish summaries pp. 69–70.]

(674a) Baldelli finds that the amount of histamine in *Echinococcus polymorphus* [*granulosus*], *Neoascaris vitulorum* and *Taenia hydatigena* is not excessive and varies according to the portion of the helminth body examined. (i) In hydatid fluid free of scolices the histamine content averaged 0·178 gamma per c.c., in fluid rich in scolices from 0·3 to 0·26 gamma per c.c. and in helminthic membrane 0·34 to 0·25 gamma per gm.; (ii) in *N. vitulorum* it varied from 0·2 gamma per gm. in the perienteric fluid to 0·72 gamma per gm. in the female genital apparatus; (iii) in *T. hydatigena* it was 0·075 gamma per gm. Businco's modification of the method of extraction used by Barsoum & Gaddum was adopted and titration was done with isolated intestine of atropinized guinea-pig. R.T.L.

675—Archivos Españoles de Urología.

a. YOUNGER, C., 1951.—"Quiste hidatídico renal." 7 (4), 356–361.

676—Archivos Uruguayos de Medicina, Cirugía y Especialidades.

a. STAJANO, C., 1951.—"Variables reacciones vaso-motrices reflejas del parénquima pulmonar, en el tratamiento del quiste hidático del pulmón por el método Lamas y Mondino." 39 (3/4), 297–300.

b. STAJANO, C. & SCANDROGLIO, J. J., 1951.—"La atelectasia pulmonar refleja controlateral en el post operatorio de un doble quiste hidático del pulmón." 39 (3/4), 367–369. [Discussion pp. 369–372.]

677—Arquivos de Higiene e Saúde Pública. São Paulo.

a. COUTINHO, J. O., 1951.—"Contribuição ao estudo da esquistossomose mansônica no Estado da Bahia—Brasil." 16 (47), 3–42. [English summary pp. 35–36.]

b. WASICKY, R. & UNTI, O., 1951.—"Experiências com algumas substâncias sôbre *Australorbis*." 16 (50), 237–246. [English summary p. 246.]

(677a) Although schistosomiasis mansoni occurs to some extent in more than half the states of Brazil and in the Federal District, Coutinho considers that it is less widespread than many investigators suggest. He summarizes the distribution in Brazil, with particular reference to the state of Bahia. Diagnostic methods are discussed, including examination of faeces, rectal biopsy (if other methods fail), intradermal tests and complement fixation. The incidence in various groups averaged about 52% according to faeces examination, but this was increased to 70·96% in 1,536 cases where allergic tests were also made. There are twenty tables recording geographical distribution, incidence according to age, sex, colour and diagnostic method used, and incidence of molluscan infection. The bibliography contains 99 references. P.M.B.

(677b) Laboratory experiments to test the toxic effects on *Australorbis glabratus* of 15 chemicals in tap-water showed that copper sulphate was the most effective and economic. At a concentration of 1:1,500,000 it killed all snails in 96 hours; at 1:20,000 it was 100% lethal in 48 hours after contact for 30 minutes. It was most effective at a temperature of 25°C., slightly less so at 37°C. and much less so at 4°C. The effect was reduced in the presence of plant or organic matter. P.M.B.

678—Arquivos do Instituto Biologico. São Paulo.

a. CARVALHO, J. C., 1951.—" Nematoides das raízes encontrados em São Paulo." Year 1950–51, 20, 165–172. [English summary p. 172.]

(678a) Earlier reports of *Meloidogyne* sp. in potatoes in the state of São Paulo are confirmed and its presence on the roots of 35 different host plants is recorded. *Heterodera rostochiensis* is still unknown there although numerous small bodies similar in colour and shape to *H. rostochiensis* cysts were recovered from soil samples from São João and Monte-Mór. R.T.L.

679—Atti della Accademia Nazionale dei Lincei. Rendiconti. Classe di Scienze Fisiche, Matematiche e Naturali. Rome.

a. LEROUX, P. L. & BIOCCA, E., 1951.—" Il *Bullinus contortus* ospite intermedio dello *Schistosoma bovis* in Sardegna." Serie 8, 11 (6), 400–402.

(679a) During a visit to Sardinia, leRoux & Biocca collected several hundred *Bulinus contortus* off the vegetation in pools of a stream close to the east coast of the island, near the village of Santo Teodoro in the province of Nuoro. The stream originates in granite hills and the *Bulinus* specimens were small in size. About 1% of them was infected with a mammalian schistosome cercaria which emerged readily when the molluscs were transferred to water at about 30°C. Some of the snails were infected with paramphistome and echinostome cercariae. An examination of the faeces of the cattle in this area revealed infection with *Schistosoma bovis*. Immature schistosomes were collected from the liver of a mouse which was killed for examination on the 15th day after exposure to infection. Photomicrographs illustrate the furcocercous schistosome cercariae and one of the immature schistosomes. It is concluded that *B. contortus* is the invertebrate host of *S. bovis* in Sardinia as it is in Corsica. The pools also harboured specimens of *Limnaea* and *Physa*, but these were not found to be infected. P.L.leR.

680—Atti della Società Italiana delle Scienze Veterinarie.

a. BIOCCA, E. & MASSI, O., 1951.—" Ricerche preliminari sulla diffusione dell'echinococcosi in Italia." 5, 262–264. [English & French summaries pp. 263–264.]
b. BERTOCCHI, D., 1951.—" L'echinococcosi in Sicilia." 5, 264–270. [French & German summaries pp. 269–270.]
c. PEGREFFI, G. & QUESADA, A., 1951.—" La synthetocaulosi caprina (broncopolmonite diffusa da larve e da uova di *Synthetocaulus rufescens*)." [Abstract.] 5, 270–271. [Also in English & French pp. 270–271.]
d. QUESADA, A. & PAPANDREA, E., 1951.—" La bilharziosi in Sardegna (rilievi epidemiologici e clinici)." 5, 273–278. [English & French summaries pp. 277–278.]
e. PAPANDREA, E., 1951.—" Indagini sulla diffusione delle elmentiasi del cane in Sardegna." 5, 490–493. [English & French summaries pp. 492–493.]

(680a) At the Rome abattoir 471 out of 841 sheep had hydatid cysts which were fertile in 358 cases. Of 1,088 cattle 158 had cysts which were fertile in 24 cases. Out of 1,100 horses infection occurred in nine, with fertile cysts in seven. All the sheep, cattle and horses were over five years old. Four out of 100 dogs had *Echinococcus granulosus*, one harbouring 40,000 worms. No infection occurred in seven foxes. P.M.B.

(680b) The numbers of cases surgically treated for hydatid in each of the nine provinces of Sicily in each of the years 1940 to 1950, totalling 689, are tabulated. The incidence is steadily increasing. The greatest number occurred in Palermo and Catania. At three slaughterhouses 700 to 800 cattle livers were destroyed annually on account of hydatid infection. *Echinococcus granulosus* was present in 11 out of 527 dogs in the towns of Palermo and Agrigento. P.M.B.

(680c) [A fuller account of this paper appears in *Clin. vet., Milano*, 1952, **75**, 44–50. For abstract see Helm. Abs. **21**, No. 207a.]

(680d) Schistosomiasis bovis has become serious in sheep and cattle in Sardinia, causing many deaths in the autumn and winter. The disease was first observed as a cause of mortality in sheep at Orosei in the province of Nuoro in 1946. In five flocks, each of about 150 sheep, in the coastal region of Nuoro during 18 months death resulted in 35–40% of those affected (including animals slaughtered on account of unproductiveness) and in four herds of cattle, each of about 50 head, the rate of loss was 20–25%. In the province of Sassari the disease was found in cattle in two foci in the southern part of Gallura, with a rate of loss of 30–35%. In eight herds of cattle in the east and west of Cagliari the rate was 20–25%. P.M.B.

(680e) Examination of the intestines of 400 dogs in Sardinia showed the following helminth incidence: *Echinococcus granulosus* 8% (at least 5,000 specimens were present in each case), *Dipylidium caninum* 6·5%, *Taenia pisiformis* 5·5%, *T. hydatigena* 4·5%, *Multiceps multiceps* 3·25%, *Mesocestoides lineatus* 2%, hookworm 10·25% and ascarids 9·75%. P.M.B.

681—Beiträge zur Klinik der Tuberkulose.

a. ESSELLIER, A. F. & KOSZEWSKI, B. J., 1951.—"Adrenocorticotropes Hormon und Löfflersches Syndrom. Wirkung des ACTH an einem im Selbstversuch erzeugten, flüchtigen Lungeninfiltrat mit Bluteosinophilie." **106** (1), 10–34.

(681a) By self-administration of 39 infective Ascaris larvae, Koszewski produced typical transitory eosinophil infiltrations in his lungs by the 13th day. During the following 48 hours he was given nine intramuscular injections of ACTH; the total amount administered was 400 gm. By the end of this period the infiltrations had completely cleared up. Essellier & Koszewski describe the experiment in great detail and conclude that ACTH is efficacious in the treatment of Löffler's syndrome and affects both blood and tissue eosinophilia. A.E.F.

682—Biodynamica.

a. CONINCK, L. A. P. DE, 1951.—"On the resistance of the free-living nematode *Anguillula silusiae* to low temperatures." **7** (133/136), 77–84.

(682a) Of *Anguillula silusiae* exposed to a temperature of −30°C., 50% remained alive after five minutes, 4% after 45 minutes, less than 1% after three days and only 0·06% after 15 days. Exposure to −192°C. resulted in a fraction of 1% surviving when the duration of exposure was 15 seconds up to 15¼ hours. Immersion in liquid air after a cooling at −30°C. gave survivors in the proportion of 5%. The maximum resistance to low temperatures was offered by the juvenile stages III and IV. R.T.L.

683—Boletín de Divulgación Ganadera. Valladolid.

*a. DÍAZ UNGRÍA, C., 1951.—"Las reacciones neoplásicas en las parasitosis." **8** (29), 29–32.

684—Boletín Epidemiológico. Mexico.

a. RUIZ REYES, F., 1951.—"Consideraciones clínicas sobre las lesiones cutáneas oncocercosas." **15** (2), 38–40.

(684a) Ruiz Reyes distinguishes three phases in the development of the cutaneous lesions of onchocerciasis: (i) acute lesions, due to the presence of microfilariae in the skin, which may disappear after three or four days or may develop into subacute lesions. Nodules develop close to the position of the original acute lesions, giving rise to periodic repetitions of the acute phase unless they are removed. (ii) Subacute lesions, with a tendency to become chronic, frequently develop as hard swellings on the ears, cheeks and nose, accompanied by discolouration of the skin. (iii) Chronic lesions remain after the oedema has disappeared, leaving the skin characteristically wrinkled. P.M.B.

685—Boletín de Información. Consejo General de Colegios Veterinarios de España.

a. ROS, J. R., 1951.—"Una nueva parasitosis en España, *Brachylaemus suis* (Balozet, 1936)." Suplemento Científico, **5** (27), 477–480.

(685a) Many pigs naturally infected with *Brachylaemus suis* through eating infected snails died when inoculated against swine fever with serum and virus. Few deaths occurred when anthelmintic treatment was given before inoculation with serum only. When pigs which had been kept away from infected snails were inoculated with serum there were no deaths. P.M.B.

686—Boletín del Instituto de Investigaciones Veterinarias. Caracas.

a. DÍAZ UNGRÍA, C. & VERGANI, F., 1951.—"Contribución al estudio de la estrongilosis del ciego en los équidos de Venezuela." **4** (19), 618–643.

(686a) This paper consists principally of a description with 77 plates (mainly original photomicrographs) of 13 species of Strongylidae, comprising two species of *Strongylus*, three of *Triodontophorus*, seven of *Trichonema* and one of *Gyalocephalus*, found in a survey of horses in Venezuela. P.M.B.

687—Boletín del Laboratorio de la Clínica "Luis Razetti". Caracas.

a. IRIARTE, D. R., 1951.—"Estadística de exámenes coprológicos practicados en el 'Laboratorio de la Clínica Luis Razetti' durante los años 1935–1949." **16** (33/34), 419–438.

(687a) The parasitic incidence in 4,638 patients, mainly from the more wealthy population of Caracas, as shown by direct faeces examination, is tabulated for each of the years 1935 to 1949. The helminths found were *Ascaris*, *Trichuris*, hookworm, *Schistosoma* sp. and occasionally *Enterobius*, *Taenia saginata* and *Hymenolepis nana*. P.M.B.

688—Boletín Médico del Hospital Infantil. Mexico.

a. ANON., 1951.—"Cisticercosis encefálica." **8** (4), 528–538. [English summary p. 538.]

689—Boletín Mensual. Dirección de Ganadería, Montevideo.

a. POU, M. C., PIÑÓN, J. C., BENGOECHEA, J. A., ARAGUNDE, L. C., BREGANTE, L. J., EPSTEIN, B. & RODRÍGUEZ GONZÁLEZ, M., 1951.—"La Dirección de Ganadería del Uruguay y su lucha antiequinocócica. (Informe de la Comisión de la Dirección de Ganadería)." **32** (3), 172–178. [French summary pp. 177–178.]

b. BREGANTE, L. J., 1951.—"Frecuencia de la hidatidosis en vacunos (*Bos taurus*) y en cerdos (*Sus scrofa*) en el Uruguay." **32** (3), 179–184. [English summary p. 184.]

c. POU, M. C. & RODRÍGUEZ GONZÁLEZ, M., 1951.—"Los enemas de peróxido de hidrógeno en *Canis familiaris* parasitado por *Echinococcus granulosus*." **32** (3), 185–186.

(689b) Three tables illustrate the incidence of hydatid in Uruguay in 272,447 cattle according to the anatomical location and the age and sex of the animals, and in cattle and pigs according to geographical distribution. The over-all incidence in cattle was 34% and in pigs 13%. P.M.B.

(689c) Enemas of hydrogen peroxide were ineffective in three dogs with *Echinococcus granulosus* although they caused the expulsion of one *Dipylidium* and several *Toxocara*. P.M.B.

690—Boletín de la Real Sociedad Española de Historia Natural.

a. ALVARADO, R., 1951.—"El epitelio cuticular de las vías genitales de *Fasciola hepatica*." Sección Biológica, **49** (1/3), 159–162.

(690a) The integument which lines the genital cavities which communicate with the exterior in *Fasciola hepatica* is shown to be a prolongation or invaginated portion of the cuticular epithelium which is of ectodermal origin. P.M.B.

691—Boletín de la Sociedad de Cirugía del Uruguay.

a. STAJANO, C. & SCANDROGLIO, J. J., 1951.—"La atelectasia pulmonar refleja controlateral en el post operatorio de un doble quiste hidático del pulmón." 22 (1), 108–110. [Discussion pp. 110–113.]
b. ARANA IÑÍGUEZ, R., RODRÍGUEZ BARRIOS, R. & SAN JULIÁN, J., 1951.—"Nueva técnica para la extirpación del quiste hidático cerebral." 22 (2), 239–249. [English summary p. 248. Discussion pp. 249–250.]
c. BOSCH DEL MARCO, L. M., CANABAL, E. J., DIGHIERO, J., BALDOMER, J. M., SUZACQ, C. V. & ANTIGA, P. F., 1951.—"Quiste hidático del corazón localizado en el ventrículo izquierdo. Operación. Curación." 22 (5), 576–598. [English summary p. 597. Discussion pp. 599–600.]
d. GARCÍA CAPURRO, R. & PEDEMONTE, P. V., 1951.—"Hidatidosis del fémur. Reposición total de un fémur." 22 (6), 700–709.

692—Boletín de Zootecnia. Córdoba.

a. DÍAZ UNGRÍA, C., 1951.—"La estrongilosis intestinal del caballo en Venezuela." 7 (72), 231–234.

693—Boletines y Trabajos. Academia Argentina de Cirugía.

a. BUSTOS, F. M., 1951.—"Coleneumotórax hidatídico espontáneo. Historia clínica y documentación radiográfica." 35 (20), 583–584.
b. CASIRAGHI, J. C. & BELLEVILLE, G., 1951.—"Los quistes hidáticos calcificados del hígado." 35 (24), 658–669. [Discussion pp. 669–671.]
c. BUSTOS, F. M., 1951.—"Sobre quistes calcificados del hígado." 35 (25), 689–692.
d. BELLEVILLE, G. I., 1951.—"Los quistes hidáticos calcificados del hígado." 35 (26), 722–724.

694—Bollettino Chimico-Farmaceutico.

a. FRACASSO, G., 1951.—"Sull'azione antielmintica dell'alfanaftiltiourea." 90 (8), 314–319. [English summary p. 314.]

(694a) Fracasso has tested the toxicity and anthelmintic properties of α-naphthylthiourea, prepared by a new process based on Clermont & Wherlin's method, which gives a tasteless, white, impalpable powder, with a melting point of 198°C. This new form of α-naphthylthiourea is called "ans"; it is highly insoluble in water. Occasionally the product is green, and tasteless or bitter, rarely it is colourless and slightly bitter; the melting point is then 196°–197°C. "Ans" is repellent and toxic to earthworms, although young males are highly resistant. Vinegar eelworms are not affected. Toxicity tests were carried out on rats, guinea-pigs, rabbits, a kitten, a dog, and a bitch. Guinea-pigs took 1·07–1·13 gm. per kg. body-weight without ill effects. The bitch, weighing 22 kg., was given a total of 4·7 gm. over a period of 4 weeks but no toxic action was apparent. Dogs with helminths were successfully treated. The dosage used against Ascaris and Enterobius was 0·1–0·5 gm. in one or more doses morning and evening, with or without purgation. "Ans" was sometimes effective where other drugs had failed, but was sometimes ineffective. Persistent infestations were usually cured by the second or third dose. The tasteless powder was acceptable to all patients and there were no complications. β-Naphthylthiourea and di-naphthylthiourea had no anthelmintic action at the same dosages. E.M.S.

695—Bragantia. Campinas.

a. BOOCK, O. J., 1951.—"Combate aos nematóides pela aplicação de fumigantes no solo. Efeito do D-D e Dowfume W-40 no combate aos nematóides formadores de galhas, em tubérculos de batatinha." 11 (1/3), 13–18. [English summary p. 18.]
b. CARVALHO, J. C. DE, 1951.—"Uma nova espécie de *Mononchus* (Nematoda, Mononchidae)." 11 (1/3), 51–54. [English summary p. 54.]
c. LORDELLO, L. G. E., 1951.—"*Xiphinema brasiliense*, nova espécie de nematóide do Brasil, parasita de *Solanum tuberosum* L." 11 (1/3), 87–90. [English summary p. 90.]

(695a) Experiments in the application of D-D mixture and Dowfume W40 (ethylene dibromide) for the control of root-knot eelworms in potatoes were made in two distinct phases in soil of glacial type at Campinas, São Paulo, Brazil. The treatments, given 18 days

before planting, were (i) fertilizer alone, (ii) fertilizer plus D-D at the rate of 78 litres per hectare, (iii) fertilizer plus W40 at 39 litres per hectare and (iv) no fertilizer or fumigant. In the first year the production on plots fertilized and fumigated was slightly better than on plots fertilized but not fumigated, and untreated plots were rather worse. In the second year, after no further treatment, two varieties of potato were grown; there was almost no difference between those on fumigated plots and those on plots fertilized only. R.T.L.

(695b) *Mononchus ibitiensis* n.sp. in washings of soil and carrots from Ibiti in the state of São Paulo differs from *M. muscorum* by its smaller stoma with four rows of six denticles and by the presence of three caudal glands connected to a pore having no valve. R.T.L.

(695c) *Xiphinema brasiliense* n.sp. from soil around potato tubers collected at Sapecado in São Paulo state, Brazil, differs from known opisthodelphic species of *Xiphinema* in having a digitate tail, and from the nearest species, *X. chambersi*, by its longer stylet and by its shorter and wider amphids. R.T.L.

696—Bulletin de l'Académie Nationale de Médecine. Paris.

a. MURAZ, 1951.—" Afrique Noire Française. De la nécessité d'y réorganiser la lutte contre la lèpre et d'y organiser la lutte contre la filariose (volvulose oculaire)." 3e Série, 135 (33/34), 588–590.

697—Bulletin de l'Académie Vétérinaire de France.

a. GUILHON, J., 1951.—" Un nouvel anthelminthique : le diéthylène diamine." 24 (4), 243–245.
b. GUILHON, J. & GROULADE, P., 1951.—" Action du diéthylène-diamine sur les ascarides des carnivores." 24 (5), 301–303.
c. GUILHON, J. & LOGÉ, G., 1951.—" Infestation intra-utérine par *Dioctophyme renale* (Goeze 1782) chez le chien." 24 (5), 305–306.

(697a) Guilhon describes preliminary experiments on the anthelmintic properties of pure diethylene diamine [piperazine] or in water or sugar solution at concentrations of 3% and 5%. Against *Ascaridia columbae* and *Capillaria columbae* in pigeons the dose rate varied from 10 cg. per kg. body-weight to 50 cg. per kg. The lower dosages produced little or no effect but doses of from 25 cg. per kg., repeated on three consecutive days, to 50 cg. caused the complete disappearance of eggs from the faeces even in heavily parasitized birds. Similar doses were tested against nematodes in dogs. The effect on *Toxocara canis* was variable and on *Trichuris vulpis* was less striking than on Capillaria. Dogs infected with hookworms treated on three consecutive days with doses between 6 cg. and 20 cg. per kg. showed no more eggs in their faeces. There were no observable toxic effects. S.W

(697b) Guilhon & Groulade have investigated the effect of piperazine on *Toxocara canis* and *T. mystax* in 22 dogs (aged from six weeks to seven years) and one kitten. The doses varied from 3 cg. to 25 cg. per kg. body-weight given orally in sugar solution on two or three successive days. Doses at the rate of 10 cg. or 15 cg. in 3% or 5% solution resulted in very few eggs being found in the faeces, but at 3 cg. and 5 cg. the egg counts remained high ten days after treatment. If a 10% solution was used the results were not as good even when the dose rate was raised to 25 cg. The kitten received 17 cg. of piperazine in 3% solution on each morning without any ill effect and on the second day expelled a large number of *T. mystax*. The optimum dose appeared to be about 10 cg. per kg. body-weight given in a 3% solution on three consecutive days and repeated ten days later. S.W.

(697c) Guilhon & Logé describe a case of prenatal infection of four puppies with *Dioctophyme renale*. At post-mortem examination of the bitch two female worms were recovered from the left kidney; the puppies died between one and two months after their mother and in each one several *D. renale* were found. As they had not at any time been fed on fish the possibility of normal infection was excluded. S.W.

698—Bulletin de l'Association des Diplômés de Microbiologie de la Faculté de Pharmacie de Nancy.

a. ROMAN, E., 1951.—" Réactions humorales de l'homme et des vertébrés vis-à-vis des protozoaires et des helminthes parasites." No. 45, pp. 6–19.

699—Bulletin of the California Department of Agriculture.

a. HART, W. H., 1951.—" Root lesion nematodes in California." **40** (3), 85–92.

(699a) In this bulletin Hart summarizes the information on the identity, host range, distribution and symptomatology of the root lesion nematodes of the genus *Pratylenchus*. The most important species in California is *P. vulnus*. Its distribution by counties and hosts is tabulated. It is pointed out that samples sent for laboratory diagnosis can be rendered almost useless by drying or excessive heating. Samples should contain both roots and soil (not less than one pint of soil) from the immediate root zone; those from different trees should be packed separately. R.T.L.

700—Bulletin de l'Institut Français d'Afrique Noire.

a. DOLLFUS, R. P., 1951.—" Métacercaire de trématode (Gasterostomata) enkystée chez des *Sparisoma, Rupiscartes* et *Blennius* de Gorée (Sénégal)." **13** (3), 762–770.

(700a) Dollfus describes and figures a gasterostome metacercaria found encysted in several small teleosts off the coast of Senegal. He gives a key to the eight genera of the Prosorhynchinae which he considers to be valid, namely, *Alcicornis, Gotonius, Neidhartia, Prosorhynchus, Dollfustrema, Mordvilkovia, Skrjabiniella* and *Pseudoprosorhynchus* and does not agree with their synonymization with *Prosorhynchus*. S.W.

701—Bulletin de l'Institut d'Hygiène du Maroc.

a. GAUD, J., 1951.—" Revue critique des travaux consacrés à la bilharziose vésicale au Maroc." **11** (1/2), 69–95.
b. GAUD, J. & CHEDECAL, M., 1951.—" Parasitisme intestinal chez les écoliers de Berguent." **11** (3/4), 301–310.

(701a) Gaud summarizes the limited amount of work which has been done on vesical schistosomiasis in Morocco and concludes that this is not nearly such a serious health problem there as in Egypt and tropical Africa. Little detailed information is available on the incidence of molluscan infection except at Marrakesh; it appears that the occurrence of *Bulinus contortus* in sufficient numbers to propagate the infection is limited to small, isolated areas. *Planorbis metidjensis* is regarded as a possible vector. At present four groups of foci are known on the Saharan side of the Atlas, viz., the western Bani, the Sous, Ouarzazate and Tafilalet, and on the Atlantic side Marrakesh and villages in the Gharb plain. P.M.B.

(701b) In 457 schoolchildren at Berguent, there were 22 instances of infection with *Hymenolepis nana*, two with *Trichuris trichiura*, seven with *Enterobius vermicularis* and 19 with *Ascaris lumbricoides*. [Table I gives the Ascaris incidence as 3.] R.T.L.

702—Bulletin. Japan Logistical Command. Medical General Laboratory (U.S. Forces).

a. HUNTER, III, G. W., RITCHIE, L. S., CHANG, I. C., KOBAYASHI, H., ROLPH, Jr., W. D., MASON, H. C. & SZEWCZAK, J., 1951.—" Parasitological studies in the Far East. VII. An epidemiologic survey of southern Korea." No. 2, 20 pp. [Mimeographed.]
b. HUNTER, III, G. W., RITCHIE, L. S., PAN, C. & LIN, S., 1951.—"Parasitological studies in the Far East. XI. An epidemiologic survey of Okinawa, Ryukyu Islands." No. 3, 29 pp. [Mimeographed.]
c. ANON., 1951.—" Parasitological studies in the Far East. XIV. Summary of the common intestinal and blood parasites of the Japanese." No. 4, 51 pp. [Mimeographed.]

(702a) [This is a detailed account, containing 12 tables and a map, of an authors' abstract which appeared in *J. Parasit.*, 1949, **35**, Suppl. p. 41. For abstract see Helm. Abs., **18**, No. 405cz.]

(702b) [This is a detailed account, containing 12 tables and a map, of an authors' abstract which appeared in *J. Parasit.*, 1950, **36**, Suppl. pp. 17–18. For abstract see Helm. Abs., **19**, No. 337bc.]

(702c) Tables and maps are presented which show the incidence of helminths in man in Japan. Although helminth parasitism is wide-spread there are very few severe cases. *Ascaris lumbricoides* was the most common except in Yamanashi Prefecture and a few villages. *Trichuris trichiura* was very common but hookworm less so. When there was a high hookworm incidence Ascaris was apparently less common. *Trichostrongylus* was less common south and west of Yamanashi Prefecture but in two communities the incidence was 80%. Schistosomiasis japonica is still confined to the five endemic areas first described by the Japanese. *Clonorchis sinensis* was ubiquitous but only endemic in a few limited areas. *Metagonimus* was unevenly distributed but there was a high incidence in some areas. Paragonimiasis only occurred in endemic foci in Shizuoka and Shikoku. Enterobius was found in 45% of more than 3,000 children examined. S.W.

703—Bulletin Médical de l'Afrique Occidentale Française.

a. PLUMAUZILLE, J., 1951.—"Cirrhose grave à *Schistosoma haematobium* chez une fillette malinké." **8** (2), 235–236.

704—Bulletin of the National Institute of Agricultural Sciences. Chiba. Series G. Animal Husbandry.

a. IKOMA, H., 1951.—[Effect of chemicals on the larvae of kidney worms (*Stephanurus dentatus* Diesing, 1839) in various stages in swine and the effects of hydrogen-ion concentration on the development of their eggs and larvae.] No. 1, pp. 165–171. [In Japanese: English summary p. 171.]

(704a) The eggs of *Stephanurus dentatus* are unable to hatch at *p*H 3. Their hatchability is highest at *p*H 7 but at *p*H 10 and over, it suddenly declines. The rate of development of the eggs is low at *p*H 7 but increases as the *p*H rises and falls. The eggs survive longest at *p*H 7. The mortality increases as *p*H increases or decreases. The larvae, at all stages, are more resistant to acid than to alkaline solutions. The test chemicals used were 2% potassium hydroxide, 5% hydrochloric acid and 1% lysol. R.T.L.

705—Bulletin de la Société de Chimie Biologique.

a. CAVIER, R., 1951.—"L'équipement enzymatique du liquide coelomique de l'ascaris du porc, *Ascaris lumbricoides*, Linné 1758." **33** (10), 1391–1399.

(705a) Cavier has investigated the enzymes present in fresh peri-enteric fluid from *Ascaris lumbricoides* of the pig and has demonstrated the presence of sucrase, maltase, amylase, lipase, alkaline and especially acid phosphatases, and protease. The optimum *p*H for all these was between 5·6 and 6·2. The pronounced glucidase activity combined with the high concentration of glycogen in the body of parasitic nematodes indicates the great importance to them of glucidic metabolism. S.W.

706—Bulletin de la Société Française de Dermatologie et de Syphiligraphie.

a. MARSHALL, J., 1951.—"A propos de la 'larva migrans'." **58** (5), 497–498.

(706a) Marshall qualifies his earlier report (in *Bull. Soc. franc. Derm. Syph.* Year 1950, p. 591) of the failure of hetrazan in the treatment of larva migrans. He now finds that when the dosage was raised to 6 mg. per kg. body-weight and administered thrice daily for at least 15 days, nearly 80% of 50 cases were cured without serious toxic reactions. In adults with few and visible lesions, treatment with carbon dioxide snow is more rapid. R.T.L.

707—Bulletin de la Société d'Histoire Naturelle de Toulouse.

a. NIGON, V., 1951.—"La gamétogenèse d'un nématode tétraploide obtenu par voie expérimentale." **86** (1/2), 195–200.

b. THÉODORIDÈS, J., 1951.—"Contribution à l'étude écologique des parasites et commensaux de Coléoptères. (Note préliminaire)." **86** (1/2), 242–244.

(707a) Nigon produced a tetraploid race of *Rhabditis elegans* by exposing hermaphrodites to a temperature of 25°C., and was able to maintain this race through 78 generations. He has studied the chromosome complement (12 in the hermaphrodites, 11 in the true males), gametogenesis and an apparent alternation of generations in great detail and describes a number of morphological variations. S.W.

(707b) Théodoridès records finding larval Diplogasterinae in the genital segment and beneath the elytra of all the Geotrupini examined, and *Rhabditis* sp. below the elytra in some coprophagous scarabeids. *Diplogaster aphodii*, *Physocephalus sexalatus* larvae and *Abbreviata theodoridesi* were found in the body cavity of *Aphodius fossi*, scarabeids and *Tentyria mucronata* respectively, and a number of oxyurids in the hind gut of several species of saprophagous scarabeid larvae. S.W.

708—Bulletin de la Société Vétérinaire Hellénique.

a. PAPADANIEL, S. K., 1951.—[Conjunctivitis in a horse characterized by microfilariae.] Ser. B, No. 3, pp. 99–103. [In Greek : French summary p. 102.]

709—Bulletin de la Société Zoologique de France.

a. ARVY, L., 1951.—"Données histochimiques sur l'infestation hépatique de *Triturus vulgaris* et de *Triturus helveticus* par *Capillaria fagei*." **76** (5/6), 301–302.

(709a) Arvy gives a brief account of the condition of the liver and blood in *Triturus vulgaris* and *T. helveticus* infected with *Capillaria fagei*. When infections were heavy, histochemical tests showed that the liver parenchyma lost much of its ribonucleic acid, glycogen, and alkaline phosphatase activity. Bile was no longer secreted and the gall-bladder contained white mucus. The gut and gonads of the parasites showed a high ribonucleic acid and glycogen content and alkaline phosphatase activity was high. W.P.R.

710—Buskap og Avdratt.

*a. FLATLA, J. L., 1951.—[Intestinal worms in pigs.] 4, 22–25. [In Norwegian.]

711—Campo. Seville.

*a. MARTIN, T., 1951.—"Cenurosis ó modorra." 10 (107), 30.

712—Carinthia II. Klagenfurt.

a. REISINGER, E., 1951.—"Lebensweise und Verbreitung des europäischen Landblutegels (*Xerobdella lecomtei* Frauenfeld)." **61**, 110–124.

713—Chirurg.

a. DOBRITZ, F. O., 1951.—"Nierenechinococcus." 22 (9), 419–420.

714—Chirurgia degli Organi di Movimento.

a. ALTIERI, E., 1951.—"Decorso pseudo-neoplastico di echinococcosi dello scheletro." 36 (2), 142–152.

b. MINI, M., 1951.—"Sull'echinococco paravertebrale." 36 (4), 253–263. [English, French & German summaries p. 262.]

715—Circular. Florida Agricultural Experiment Station.

a. CLARK, F. & MYERS, J. M., 1951.—" Fumigation and equipment for nematode control in soils for flue-cured tobacco." No. S-27, 11 pp.

716—Compte Rendu Sommaire des Séances de la Société de Biogéographie. Paris.

a. HARANT, QUÉZEL, RIOUX & VERDIER, 1951.—" Biocénose et parasitologie médicale. Note préliminaire." 28 (244/245), 149–151.

717—Comunicaciones del Instituto Nacional de Investigación de las Ciencias Naturales anexo al Museo Argentino de Ciencias Naturales Bernardino Rivadavia. Buenos Aires. Ciencias Zoológicas.

a. SZIDAT, L., 1951.—" Cercarias schistosómicas y dermatitis schistosómica humana en la República Argentina." 2 (10), 129–150. [German summary pp. 147–148.]

(717a) Dermatitis caused by cercariae of the ocellata group is rare in Argentina. Two species of furcocercariae belonging to this group are now described from *Chilina fluviatilis* in the Paraná delta near Tigre, namely, *Cercaria chilinae I* n.sp. and *C. chilinae II* sp.inq. They are distinguished from each other and from *C. pseudocellata* and *C. longicauda* by the relative body and tail lengths and probably represent unknown species of *Trichobilharzia*. A smaller cercaria, *C. quequeni* n.sp., is described from *Planorbis peregrinus* from the River Quequén. The flame-cell pattern, 2(4+1), is identical with that of the cercariae of *Schistosoma mansoni, S. bovis* and *S. spindale* but on account of the unpigmented eye-spots the new species is regarded as belonging to a species of *Ornithobilharzia* occurring in mammals and possibly in man. No dermatitis could be produced on the forearm of three individuals with any of the cercariae, although *C. quequeni* penetrated the skin rapidly. An attempt to infect young ducks with *C. chilinae I* was unsuccessful.

P.M.B.

718—Connecticut State Medical Journal.

a. LOWMAN, R. M., GRANT, C. & LOSASSO, D. A., 1951.—" Roentgen demonstration of *Ascaris lumbricoides* in the alimentary tract." 15 (6), 467–469.
b. WASSERMAN, E., 1951.—" Trichinosis : observations on fifty sporadic cases." 15 (11), 965–969.

719—Cooperative Economic Insect Report. Washington, D.C.

a. LOWNSBERY, B. F., 1951.—" Tobacco attacked by a species of *Heterodera* in Connecticut." 1, Special Report No. 1, pp. 59–60.

(719a) In this report, Lownsbery briefly records the finding of *Heterodera* cysts on the roots of shade tobacco from Hazardville, Conn., and their presence in the soil at a density of 50 cysts per 2 oz. Although morphologically similar to *H. rostochiensis*, this eelworm differs in host range and doubt is expressed as to its identity. [Since the date of the finding was 7th September, 1951 and that of this report is 26th October, 1951, this is probably the first published record.]

B.G.P.

720—Cyprus Medical Journal.

a. MARANGOS, G. N., 1951.—" International Hydatid Disease Congress held in Algiers on May 20–24, 1951, and the lessons applicable to Cyprus." 4 (7), 668–672.
b. MARANGOS, G. N., 1951.—" The surgical treatment of lung hydatid." 5 (1/2), 767–774.

(720a) It is estimated that in Cyprus hydatid occurs in 50% to 70% of all slaughtered animals. In ewes and rams up to 12 months old it was present in 80% and 60% respectively. During the 14 years from 1936 to 1949 records showed that of 650 human cases which were surgically treated 25 (4·5%) died; the number of cases reached a maximum of 80 in 1949.

P.M.B.

721—Deutsche Medizinische Wochenschrift.

a. MENDHEIM, H. & SCHEID, G., 1951.—"Bemerkungen zu dem Artikel von H. Eucker: 'Zur Dosierung des Phenothiazins bei der Behandlung der Oxyuriasis'." **76** (3), 89–90.
b. EUCKER, H., 1951.—"Schlusswort." **76** (3), 90.

(721a) Mendheim and Scheid challenge Eucker's view [for abstract see Helm. Abs., **19**, No. 75a] that the total dosage of phenothiazine for the treatment of enterobiasis should be given within a two-day period. They consider that individual doses should be kept as low as possible to avoid toxic side effects, and that a total dose of from 3 gm. to 6 gm. should be spread over ten days. They are also of the opinion that the number of patients (33) on which Eucker based his recommendations was too low. A.E.F.

(721b) In reply to the preceding comments Eucker reiterates his earlier statements and points out that if the dosage is spread over a long period cumulative toxic effects on the patient are likely. He states that the number of cases on which his earlier conclusions were based was 65, not 33, and that he now has records of a total of 92 cases in support of his claims. A.E.F.

722—Deutsche Zoologische Zeitschrift. Hanover.

a. MENDHEIM, H., 1951.—"Helminthen aus Kleinsäugern des Glatzer Schneeberges." Year 1950, **1** (2), 133–138.

(722a) Mendheim lists the animals which have been recorded as definitive and intermediate hosts of *Taenia taeniaeformis*; many must, however, be regarded as accidental or very rare hosts. *Apodemus flavicollis* and *Mus spicilegus* are new intermediate hosts from the Glatzer Schneeberge, Silesia. P.M.B.

723—Día Médico. Buenos Aires.

a. LANGER, L., BABINI, D., JUANEDA, A. & YOFRE, R., 1951.—"El tratamiento quirúrgico de la hidatidosis pulmonar." **23** (25), 1020–1024.
*b. MOSCA, L. G., GUERRINI, F. Z., CHAZARRETA, G., SILBERMAN, M., TAGLIAVINI, N. & SILBERMAN, C., 1951.—"El signo del mamelón. Un signo radiológico característico del quiste hidatídico cerrado de riñón." 23 (60), 2679–2685.
*c. REPETTO, R. L. & WILKINSON, F., 1951.—"Nuevo tratamiento de la oxiurosis." 23 (69), 3104–3106.
*d. TURCO, N. A. & GUZZETTI, J. C., 1951.—"Hidatidosis muscular primitiva." 23 (92), 4217–4218.

724—Documenta Neerlandica et Indonesica de Morbis Tropicis.

a. BRAS, G. & LIE KIAN JOE, 1951.—"Histological findings in lymph nodes of patients with the Meyers-Kouwenaar syndrome." **3** (4), 289–294.
b. REISEL, J. H. & GROEN, J., 1951.—"Tropical eosinophilia and filariasis." **3** (4), 320–324.
c. BLUMBERG, B., McGIFF, J. & GUICHERIT, I., 1951.—"Filariasis in Moengo (Surinam) in 1950." **3** (4), 368–372.

(724a) Bras & Lie Kian Joe confirm the report of Meyers & Kouwenaar that microfilariae can cause histopathological changes in the lymph nodes. Histological sections from the lymph nodes of five patients from Banka Island, Celebes, Borneo, Sumatra and Java, with a clinical syndrome of generalized lymphadenopathy and hypereosinophilia, but not of filariasis, showed eosinophilia of the lymph nodes, giving rise to the formation of eosinophilic abscesses and foreign body granulomas. Microfilariae but no macrofilariae were present in the lymph nodes; no microfilariae were observed in the peripheral blood. P.M.B.

(724b) [A fuller account of this paper appeared in *Ned. Tijdschr. Geneesk.*, 1951, **95**, 1736–1744. For abstract see Helm. Abs., **20**, No. 502e.]

(724c) A report, with a graph and six tables, is given on the distribution of microfilaraemia in relation to age, sex, race and geographical location of the population of Moengo, consisting mainly of the staff and employees of the Surinam Bauxite Company and their families. The over-all incidence of *Wuchereria bancrofti* was 13·7% (272 out of 1,966); among 1,278 creoles it was 18·5% compared with 3·6% among 249 Indonesians. There was a rapid rise in incidence in those over six years of age, reaching a maximum of 20·2% in the age group 26–35 years. There was no significant difference in incidence in males and females. P.M.B.

725—Dokladi Akademii Nauk SSSR.

a. SOPRUNOV, F. F., 1951.—[Helminthophagia in predatory soil hyphomycete fungi in Turkmenia.] 81 (5), 973–976. [In Russian.]

(725a) Soprunov reports on his work in Turkmenistan in 1946 on the fungi which prey on helminth larvae. Of the 15 genera of predacious fungi 11 belong to *Trichothecium* and *Arthrobotrys*. The other genera mentioned are *Dactylaria* (brocophaga) and *Nematoctonus*. He found that these fungi destroy ancylostome larvae, strongyle larvae in horse dung and larvae of plant-parasitic eelworms. C.R.

726—Doriana. Genoa. [Supplement to Annali del Museo Civico di Storia Naturale "G. Doria".]

a. PUJATTI, D., 1951.—"Su gruppi di acanthellae osservate nella *Vipera russelli* Shaw (Acanthocephala)." 1 (16), 6 pp.

(726a) Pujatti describes and illustrates the hooks of degenerate acanthellae of *Echinopardalis bangalorensis* found in *Vipera russelli* near Bangalore. R.T.L.

727—Down to Earth. Midland, Michigan.

a. STRAND, A. B., 1951.—"Nematodes cause serious losses to beet crop in Tennessee." 7 (3), 8–9.

(727a) In recent years the infestation of the soil in Tennessee with root-knot nematodes has increased alarmingly. On the sandy loam which is considered the best type of soil for vegetable crops, especially for canning beet and lima beans, and which rents at $35 to $50 per acre, per annum, there have often been total losses. On a farm of this type Dowfume W40 was applied at a depth of 8 inches in furrows 9 inches apart at the rate of 15 gallons per acre, followed by a drag to seal the fumigant. Perfected Detroit beets were planted in rows 24 inches apart. The acre value of the crop from the control plots was $24, from the plots treated in the previous autumn $209, and from those treated in the spring $210. R.T.L.

728—Echo Médical du Nord.

*a. SWYNGHEDAUW, PATOIR & LEGRAND, 1951.—"Kyste hydatique rétro-vésical." 22 (5), 240–241.

729—Ergebnisse der Inneren Medizin und Kinderheilkunde.

a. MAINZER, F., 1951.—"Viscerale Bilharziase (*Schistosoma haematobium* und *mansoni*)." New series, 2, 388–411.

(729a) Mainzer gives an account, illustrated by photomicrographs and radiographs, of schistosomiasis haematobia and mansoni with particular reference to the pathology and clinical forms of pulmonary infections and to liver cirrhosis and Egyptian splenomegaly. P.M.B.

730—Experimentelle Veterinärmedizin. Leipzig.

a. KORKHAUS, R., 1951.—"Untersuchungen über den Mandelsäureisoamylester als Anthelmintikum bei der Askarideninvasion des Hundes." 3, 39–48.

(730a) Korkhaus has successfully treated helminth infections in dogs with Mandaverm (*iso*-amyl ester of mandelic acid). In all but six of 53 dogs given a dose of 1 c.c. per kg. body-weight it was 100% effective in removing *Toxocara canis* and *Toxascaris leonina*. For large dogs the dose may be reduced by up to 30% without loss of effect. Success was also achieved against *Uncinaria stenocephala* and *Trichuris vulpis* but here the normal dose should be doubled. Mandaverm had no effect on cestodes (*Dipylidium caninum, Taenia pisiformis* and *T. hydatigena*). The preparation is exceptionally well tolerated and even a dosage of three times the normal one produced no side effects. A.E.F.

731—Extension Bulletin. Washington State College.

a. ANON., 1951.—"Worms in poultry." No. 355, 6 pp. [Revised.]

732—Extension Circular. Hawaii College of Agriculture.

a. VOLLRATH, H. M., 1951.—"Roundworm control (swine)." No. 253, 4 pp. [Revised.]

733—Extension Circular. North Carolina State College of Agriculture.

a. COX, B. F. & HARKEMA, R., 1951.—"Common parasites of poultry." No. 160, 12 pp. [Revised.]

734—FAO Development Paper. Rome.

a. LING, L., 1951.—"Review of information on certain diseases of rice." [Report of the 2nd Meeting of the International Rice Commission's Working Party on Rice Breeding, Bogor, Indonesia, April 9–13, 1951.] No. 14 (Agriculture), pp. 54–66.

b. VECHT, J. VAN DER, 1951.—"Nematode investigations conducted in connection with the rice breeding program in Indonesia." [Report of the 2nd Meeting of the International Rice Commission's Working Party on Rice Breeding, Bogor, Indonesia, April 9–13, 1951.] No. 14 (Agriculture), pp. 66–67.

(734a) After dealing with fungal and bacterial diseases of rice, Lee Ling describes six diseases associated with nematodes, giving briefly the distribution, symptoms and control measures where known. The diseases are Ufra disease in the Ganges delta, India, Burma and Malaya, due to *Anguillulina angusta* [*Ditylenchus angustus* (Butler, 1913) Filipjev, 1936]: a root disease in Indonesia associated with *Anguillulina oryzae* [*Radopholus oryzae* (v.Breda de Haan, 1902) Thorne, 1949]: erect-head disease in Japan, associated with *Anguillulina* sp.: a disease caused by a species of *Aphelenchoides* occurring in the Central Provinces of India: root-knot disease occurring in Arkansas, U.S.A., and of little importance: and finally Akhet-Pet disease in Burma caused by a species of *Anguillulina*. M.T.F.

(734b) In this brief report van der Vecht describes his investigations on the effects of the nematode, *Radopholus oryzae*, on rice in Java. The nematodes live in the roots, damaging the cortex and causing retardation of growth and reduced tillering. The effects are complex as they depend on the age of the attacked plant, the numbers of nematodes, the soil and weather conditions and the variety of rice. M.T.F.

735—Farming in South Africa.

a. VUREN, J. P. J. VAN & MOSTERT, T., 1951.—"Revised regulations for the production of government-certified seed potatoes." 26 (307), 336–338, 346.

(735a) In these revised regulations of the Department of Agriculture of the Union of South Africa, two land and two tuber inspections are imposed. A potato crop which has passed both land inspections qualifies for tuber inspections and among other conditions requisite for both "A" and "AA" certificates, "no visible eelworm is tolerated" in the first

tuber inspection of a representative sample. It is also a condition that the tubers must be out of the ground for a period of at least four weeks to allow enough time for the development of latent eelworms, if present, to become visible. R.T.L.

736—Fauna. Brazil.

*a. MALHEIRO, D. DE M., 1951.—[Hydrogen peroxide as a vermifuge for dogs.] 10 (5), 13–14. [In Portuguese.]

737—Feldsher i Akusherka. Moscow.

*a. POPOV, B. V., 1951.—[Prevention of ancylostomiasis.] Year 1951, No. 9, pp. 23–29. [In Russian.]

738—Flugblatt. Bundesanstalt für Pflanzenschutz (Landwirtschaftlich Bakteriologische Versuchsanstalt). Vienna.

a. BÖHM, O., 1951.—" Das Kartoffelälchen." No. 79, 4 pp.

(738a) This is a brief popular account of the potato root nematode, *Heterodera rostochiensis*, its life-history, host plants, means of spread, symptoms produced by it on potatoes and means of control. M.T.F.

739—Folha Médica. Rio de Janeiro.

*a. SÁ OLIVEIRA, E. DE, 1951.—" Esquistosomose e estado elefantino (ligeiras considerações sôbre um caso de estado elefantiásico das bôlsas com a presença de ovos de esquistósomo)." 32 (20), 159–160.

740—Folia Clinica et Biologica.

a. CAMPOS, J. V. M., COUTINHO, J. O. & PONTES, J. F., 1951.—" Notas sôbre o tratamento da esquistossomose mansônica." 17 (2), 169–174.

b. COUTINHO, J. O., CAMPOS, R. & AMATO NETO, V., 1951.—" Nota sôbre a prevalência da estrongiloidíase em crianças de São Paulo." 17 (2), 191–207.

(740a) Treatment of schistosomiasis mansoni with Repodral (a trivalent antimonial) was effective in only one case out of ten, and with miracil-D in two cases out of ten. P.M.B.

(740b) *Strongyloides stercoralis* was present in 129 out of 1,068 children (12·07%) in São Paulo. Of these 11·42% were detected by the Baermann technique, 7·58% by sedimentation in water and 5·05% by Faust's zinc sulphate technique. The other helminths present and the incidence of *S. stercoralis* according to age, sex and colour are tabulated. P.M.B.

741—Folia Psychiatrica, Neurologica et Neurochirurgica Neerlandica.

a. OBRADOR ALCALDE, S., 1951.—"Some neurosurgical features of the tubercolomas and parasitic cysts of the brain." 54 (4/5), 295–299.

(741a) In Madrid nearly 15% of Obrador Alcalde's cases of expansive intracranial lesions were due to tuberculous granulomata, cysticerciasis and hydatid cysts. Cerebral cysticerciasis was confirmed in 14 cases. In the great majority of these, the initial symptoms were headaches, vomiting and diplopia; only in three instances were there jacksonian attacks, aphasia or visual hallucinosis. Epileptiform fits were recorded in nearly half of the cases. Neurological examination disclosed papilloedema in 12 patients and paresis of the sixth nerve from increase of intracranial pressure in four patients. A positive reaction with alcoholic extract of pig cysticerci as antigen proved most valuable for clinical diagnosis. Owing to the frequent multiplicity of cysts spread over the cerebral cortex and basal regions of the brain surgical intervention in these cases gave poor results. In five out of nine examples of cerebral hydatid cyst the initial symptoms indicated local disturbance with raised intracranial pressure. The clinical history in all cases was of two to seven months

only. With one exception all showed a papilloedema or secondary optic atrophy. The cerebrospinal fluid was not significantly changed. As the cyst had no vascular connections, its removal was usually a simple operation. Streptomycin in the post-operative management has changed the previous unfavourable prognosis. R.T.L.

742—Fortschritte auf dem Gebiete der Röntgenstrahlen.

a. SCHUMANN, E., 1951.—" Cysticercose im Röntgenbild." **75** (6), 694–699. [English, French & Spanish summaries p. 699.]

743—France Médicale.

a. GALEY, J. J., 1951.—" Les kystes hydatiques du poumon." **14** (9), 23–25.

744—Friuli Medico. Udine.

a. SAGGIORO, C., 1951.—" Su un caso d'invaginiazione ileo-cieco-colica da elminti." **6** (4), 428–433.

745—Gaceta Médica. Guayaquil.

a. ARCOS V., L., 1951.—" Paragonimiasis pulmonar." **6** (5), 379–382. [English summary p. 382.]
b. SALINAS BUSTOS, E., 1951.—" Paragonimiasis pulmonar." **6** (5), 405–409.

(745a) The first case of paragonimiasis to be reported from Quito, Ecuador, is described; it may also be the first recorded from the Sierra region. Treatment with emetine hydrochloride resulted in the disappearance of eggs from the sputum. In a footnote three more cases from Quito are recorded, one originating from Quevedo and two from Santo Domingo de los Colorados. P.M.B.

(745b) Two cases of paragonimiasis are reported from Guayaquil, Ecuador. In one case the infection was associated with tuberculosis. P.M.B.

746—Gazette Médicale de France.

a. HUARD, P., 1951.—" Comment examiner une chylurie?" **58** (15), 911–912.
b. HUARD, P., 1951.—" Comment traiter une chylurie?" **58** (15), 915–916.
c. BRUMPT, L., 1951.—" Thérapeutique des parasitoses 1951." Bilan Thérapeutique 1951, pp. 69–76.
d. CAVIER, R., 1951.—" Recherches dans le domaine des anthelminthiques." Bilan Thérapeutique 1951, pp. 85–94.

(746a) In Hanoi, about 40% of the filarial cases have chyluria. 60% of them gave a positive reaction to *Dirofilaria immitis* antigen 1:8,000. In 16%, the chyluria was associated with genital or lymphatic lesions. Cystoscopy, intra-veinous urography and pyelography can be utilized to locate the pyelo-lymphatic fistula. Three types of lesions are recognized, viz., (i) simple aseptic lymphochyluria, (ii) haemato-pyo-chylo-lymphuria with chronic infection of the urinary ducts but without severe nephritis or irreversible disturbance of the renal function and (iii) haemato-pyo-chylo-lymphuria with urinary infection and chronic nephritis associated with irreversible disturbance of the renal function. R.T.L.

(746b) Lymphochyluria is a cyclical disease showing long periods of remission and sometimes spontaneous recovery. Various treatments discussed are (i) antiparasitic (with arsenicals, antimonials and hetrazan) and antibacterial; (ii) endoscopic lavage of the bladder; (iii) surgical treatment of the bladder and kidneys; (iv) radiotherapy. R.T.L.

(746c) In this general review of the treatment of parasitic diseases L. Brumpt criticizes the frequent administration of antihistamines with notézine [hetrazan] for filarial infections on the grounds that these are illogical, superfluous, a hindrance to diagnosis and possibly harmful. For Trichuris he recommends the latex of *Ficus glabrata*, sold in Colombia under the name of Higueronia. For the treatment of liver-fluke infections he

suggests the combination of nivaquine with emetine or fouadin on account of the strong concentration of nivaquine in the liver, but is of the opinion that the apparent success obtained with this drug in one case with *Clonorchis sinensis* was coincidental. He considers that therapeutics is far in advance of diagnosis and should only be applied in proportion to the pathogenic activity of the parasite. P.M.B.

(746d) This is a summary of published work on anthelmintics followed by a report on the author's *in vitro* tests on *Rhabditis macrocerca* and *in vivo* tests on *Syphacia obvelata* and *Aspiculuris tetraptera* in mice with (i) conessine chlorhydrate which killed *Rhabditis* in 1 to 48 hours according to concentration and eliminated all oxyurids from 6 out of 9 mice (66%, compared with 75% removed with santonin); (ii) oil of cinnamon and oil of cloves, the results of which were published more fully in *Thérapie*, **5** (3), 140–143 [for abstract see Helm. Abs., **19**, No. 826a]; (iii) piperazine and three of its derivatives: piperazine and diphenylacetate of piperazine gave 100% removal of oxyurids and killed *Rhabditis* in 3 hours and 1 hour respectively at concentrations of M/10. P.M.B.

747—Geburtshilfe und Frauenheilkunde.

a. FREUDENBERG, H., 1951.—" Parametropathia oxyurica. Ein Beitrag zur Bedeutung der Oxyuriasis für die Gynäkologie." **11** (9), 848–851.

(747a) Freudenberg describes a case of infection in a 34-year-old multipara which revealed granuloma of the uterosacral ligament containing numerous Enterobius ova. He reviews earlier literature on enterobiasis of the female genitalia and peritoneum. A.E.F.

748—Giornale Italiano di Chirurgia.

a. PERROTTI, G., 1951.—" Tecnica e risultati di interventi per cisti da echinococco del polmone." **7** (12), 786–787.

749—Gladiolus. Boston.

*a. MAGIE, R. O., 1951.—" Nematodes and their control." Year 1951, pp. 108–112.

(749a) Magie reviews methods of controlling eelworms including summer fallow, flooding and drainage followed by aeration and tillage, crop rotation and soil fumigation. [Based on an abstract in *Biol. Abs.*, **26** (3), No. 7273.] S.W.

750—Hemera Zoa. Buitenzorg.

a. MANSJOER, M., 1951.—" Worm-nodules on chicks." **58** (9), 530.

751—Higiena i Sanitariya. Moscow.

a. USACHEVA, A. M., 1951.—[Survival of helminth eggs in water and in river sediment.] Year 1951, No. 12, pp. 12–17. [In Russian.]

(751a) Usacheva made monthly examinations of samples of water and sediment from the bottom of the river for helminth eggs. These samples were taken from a point on the river near the sewage outflow, and from points above and below it. Of 88 samples of water taken from 0·2–0·5 metre below the surface of the water at varying distances from the outflow, most contained eggs of Ascaris, Enterobius, Trichuris, Taenia and Diphyllobothrium. Of 88 samples of sediment taken from the river she found that 80% of them contained eggs of Ascaris, Enterobius, Trichuris and Taenia. She found that all the samples of water and sediment examined during a period of flooding contained eggs mainly of Ascaris, Enterobius and Trichuris. The eggs of Ascaris from all these samples were tested at 24°C.–26°C. for viability and almost all were found viable. In order to test the time of development and longevity of eggs of Ascaris both in water and in the sediment, Usacheva placed eggs on membranous filters which were suspended 0·7 metre below the surface of the water and also placed on the sediment in the river. She found that most of the eggs

were viable for many months; after 15 months 11·8% of the eggs in water and 17·1% of those on sediment were still viable. Of those eggs which contained larvae at the beginning of the experiment only 6·4% were viable after 15 months in water and 8·5% in sediment. Usacheva concludes that the bottom sediment of rivers seems to be the reservoir for helminth eggs. C.R.

752—Higijena. Belgrade.

a. KOSTIĆ, D., 1951.—" Laboratoriske metode u dijagnozi ehinokokoze." 3 (3), 208–210.

753—Hippokrates. Stuttgart.

*a. STAACK, W., 1951.—" Beobachtungen zum Biss des Blutegels." 22 (20), 561.

754—Hirosaki Medical Journal.

a. OUCHI, K., 1951.—[Non-surgical treatment of bile duct ascariasis.] 2 (1), 60–62. [In Japanese : English summary p. 12.]

b. OUCHI, K. & KAKIZAKI, C., 1951.—[Ascaris-eggs in liver.] 2 (2), 111–114. [In Japanese : English summary p. 18.]

(754a) Although anthelmintics are not so effective against Ascaris of the bile-ducts as of the intestine, 21 cases have been successfully treated by the administration of santonin or by Lyon's duodenal tubing. With the return of the ascarids from the bile-duct to the duodenum the pain and other symptoms may disappear spontaneously. Surgical treatment is necessary only when the pain and high fever with jaundice persist for a long time. R.T.L.

(754b) Ascaris eggs were obtained by biopsy from atrophic spots on the surface of the liver during laparotomy operations for gallstones and occlusion of the bile-ducts. Histological findings suggest that the eggs reached the liver surface from the bile-ducts. R.T.L.

755—Höfchen-Briefe für Wissenschaft und Praxis.

a. KOTTHOFF, P., 1951.—" Die wichtigsten pflanzenschädlichen Nematoden." 4 (5), 191–216.

(755a) Kotthoff gives a full account of the most important nematode parasites of crops and indicates what control measures are available. He deals first with *Heterodera schachtii*, *H. avenae* [*major*], *H. rostochiensis* and *H. göttingiana* and briefly with root-knot eelworm, which in Germany is found mainly in glass-houses. He then describes the damage caused by stem eelworm, *Ditylenchus dipsaci*, in its various host crops. Finally, he deals shortly with *Aphelenchoides* spp. and *Anguina tritici*. There are good photographs illustrating many of the diseases. M.T.F.

756—Hospital. Rio de Janeiro.

a. BASTOS PEREIRA, R., 1951.—" Ação tenífuga dos derivados da acridina." 40 (4), 595–603. [English summary p. 603.]

b. BENCHIMOL, A. B. & TORRES, E. T., 1951.—" Cardiopatia chagásica associada à esquistossomose." 40 (5), 811–822.

(756a) Eight out of ten patients with *Taenia saginata* were cured with atebrin. Children were given a total of 0·5 gm. to 0·6 gm. and adults 0·8 gm. in tablets of 0·1 gm. Atebrin is preferred to extract of male fern on account of the absence of toxic effects. P.M.B.

(756b) A pathological study of a case of intense, chronic, diffuse myocarditis due to Chagas' disease, with pulmonary and hepatic schistosomiasis is presented. P.M.B.

757—Indian Journal of Helminthology.

a. SANWAL, K. C., 1951.—"On a new avian nematode, *Dispharynx pavonis* n.sp. (sub-fam. Acuariinae, Railliet, Henry & Sisoff, 1912) from the peafowl, *Pavo cristatus*." 3 (2), 73–78.
b. SANWAL, K. C., 1951.—"On a new avian nematode, *Habronema thapari* n.sp. (sub-fam. Spirurinae Railliet, 1915) from the blue jay, *Coracias benghalensis* (Linnaeus)." 3 (2), 79–86.
c. KHERA, S., 1951.—"*Trichuris cynocephalus* n.sp. (family Trichinellidae Stiles and Crane, 1910 : Nematoda) from the Abyssinian baboon, *Cynocephalus hamadaryas* [*hamadryas*] Linn." 3 (2), 87–92.
d. TANDON, R. S., 1951.—"On a new amphistome, *Olveria bosi* n.sp. from the rumen of buffalo, *Bos bubalis*, from Lucknow." 3 (2), 93–100.
e. GUPTA, S. P., 1951.—"Studies on the trematode parasites of food-fishes of U.P. A new trematode, *Macrotrema macroni* n.gen., n.sp., from the intestine of a fresh-water fish, *Macrones cavasius* (Ham.) of the sub-family Leptophallinae Dayal 1938." 3 (2), 101–108.
f. SINGH, S. M., 1951.—"Host plants of *Heterodera marioni* (Cornu 1879) Goodey, 1932 in the Uttar Pradesh." 3 (2), 109–110.
g. KHERA, S., 1951.—"*Thubunaea quadridentata* n.sp. (sub-family Physalopterinae Railliet, 1893 : family Physalopteridae Leiper, 1908 : Nematoda) from wall-lizard, *Hemidactylus flaviviridis*." 3 (2), 111–116.
h. KAW, B. L., 1951.—"Studies in helminthology : helminth parasites of Kashmir. Part II. Acanthocephala." 3 (2), 117–132.

(757a) *Dispharynx pavonis* n.sp. from *Pavo cristatus* is similar to *D. emberizae* but has 11 instead of 9 pairs of caudal papillae. The anterior cuticular cordons are only slightly wavy, whereas in *D. emberizae* they are extremely sinuous. It differs from *D. spiralis* from the same host in body size, the extent of the anterior cuticular cordons and the caudal papillae which in *D. spiralis* number 9 pairs. R.T.L.

(757b) *Habronema thapari* n.sp. was found under the lining of the gizzard of *Coracias benghalensis* at Lucknow. It differs from *H. diesingi* in lacking cuticular cephalic shields and lateral alae. There are ten dentate structures and four cephalic papillae. The spicules and gubernaculum are shorter and the latter is V-shaped. Of the caudal papillae, three pairs are preanal. *H. thapari* differs also from *H. indicum* from the same host in size of body, structure of head, shape of gubernaculum and the oesophagus is double the length. R.T.L.

(757c) *Trichuris cynocephalus* n.sp. from the appendix of an Abyssinian baboon, *Cynocephalus hamadryas*, differs from *T. trichiura* in size. The males are 28–35 mm., the females 25–30 mm. in length. The cloacal tube does not exceed 2·1 mm. in length, being one-sixth the length of the posterior portion of the body. The vas deferens does not exceed 4·9 mm. in length. The testis is moderately looped. The spicule is 2·0–2·48 mm. long. The eggs measure 0·052–0·06 mm. × 0·025–0·028 mm. The cuticle around the vulvar opening is radially striated and surrounded by a ring of clear cuticle. There is a key to the Indian species of *Trichuris*. [It is partly based on hosts.] R.T.L.

(757d) *Olveria bosi* n.sp. was found associated with *O. indica* in *Bos bubalis* at Lucknow. It resembles *O. indica* in general morphology, but differs in possessing pars musculosa and prostatica, in the relative position of the testes, the shape of the oral sucker and of the excretory bladder, and in the size and extent of the vitelline follicles. The eggs measure 0·11–0·117 mm. × 0·065–0·0738 mm. R.T.L.

(757e) *Macrotrema macroni* n.g., n.sp. from *Macrones cavasius*, a fresh-water fish from the river Gomti at Lucknow, differs from known genera of Leptophallinae in the absence of pars prostatica. It possesses a long oesophagus, diagonally placed testes and an ovary which is larger than either of the testes. The vitelline glands extend from the ventral sucker to a little anterior to the posterior end of the body. A key to the six genera of Leptophallinae is provided. R.T.L.

(757f) A severe outbreak of root-knot on "brinjal" (*Solanum melongena*) is now reported for the first time from the Uttar Pradesh. The infected plants, which were dwarfed with small leaves mostly at the apices, developed a deep yellow colour and withered at noon. The yield was considerably reduced. 27 species of plants are listed as subject to *Heterodera marioni* infection in India. R.T.L.

(757g) *Thubunaea quadridentata* n.sp. from the wall lizard, *Hemidactylus flaviviridis*, at Lucknow differs from other species in the number (4) and distribution of the teeth on the left lip. The left spicule is less than 0·07 mm. long and the right spicule is less than 0·05 mm. long. A key differentiates the six species of *Thubunaea* with asymmetrical lips. R.T.L.

(757h) Three new species of Acanthocephala collected in Kashmir are described and figured. *Echinorhynchus orientalis* n.sp. from *Schizothorax* sp. differs from *E. lotellae* in the size of the proboscis, proboscis hooks and lemnisci, and of the proboscis receptacle. *Neoechinorhynchus manasbalensis* n.sp. from *Oreinus sinuatus* differs from known species of the genus in size and form of the proboscis, size of the proboscis hooks and lemnisci, number of nuclei in the lemnisci and the subcuticular region of the body. The eggs measure 0·023–0·027 mm. × 0·009–0·01 mm. *N. cyanophlyctis* n.sp. from *Rana cyanophlyctis* in Srinagar, Lucknow, differs from known species in shape of body, form and size of proboscis, length of proboscis hooks, size of lemnisci and position of the male reproductive organs which are confined to the posterior third of the body. A table sets out the chief characters of 20 species of the genus *Echinorhynchus*. The genus *Eosentis* is discarded and its species, *E. rigidis*, *E. devdevi*, *E. yalei* and *E. formosanus*, are transferred to *Neoechinorhynchus*. R.T.L.

758—Indian Journal of Malariology.

a. RAGHAVAN, N. G. S., 1951.—" Filariasis in Porbandar, Saurashtra." 5 (2), 203–207.

(758a) At Porbandar, a busy port on the Arabian Sea, *Wuchereria bancrofti* is very prevalent. The sole vector is *Culex fatigans* for which soakage pits in close proximity to human habitations provide ideal breeding grounds. Infective filarial forms were found in 14·6% of 945 *C. fatigans* caught in houses. Passive transmission of vectors by boats is presumed to be an important factor in transmission. R.T.L.

759—Irish Veterinary Journal.

a. LEE, R. P., 1951.—" Observations on veterinary parasitology in the United States of America." 5 (4), 65–69, 72–73.

760—Istanbul Üniversitesi Tıp Fakültesi Mecmuası.

a. BIYÂL, F., 1951.—" Saf benzinle barsak parazitleri üzerinde klinik denemeler." [Clinical experiments on the helminths with pure benzine.] 14 (2), 306–323. [English summary pp. 322–323.]

761—Izvestiya na Meditsinkite Instituti. Sofia.

*a. FILIPOV, F., 1951.—[New roentgenographic symptom in cerebral cysticercosis.] 2-3, 87–98. [In Russian.]

762—Japanese Journal of Experimental Medicine.

a. SHOHO, C., 1951.—" The pathology of setariasis in Japan and its significance in veterinary and medical science." 21 (4), 449–462.

(762a) Shoho reviews recent work on the neuropathological lesions, associated with setariasis due to young *Setaria digitata* in sheep and lumbar paralysis in goats and foals. Their identity is considered undoubted. The disease can be recognized by a gradual or abrupt appearance of nervous disturbances characterized by complete or incomplete paralysis of the fore or hind limbs causing immobility, ataxia or fits. In most cases fever is absent. The essential pathological change is a "colliquative necrosis" of the nervous tissue, accompanied by inflammatory response, expressed in the perivascular cuffing of eosinophils, lymphocytes and plasma cells against the *Setaria digitata* or its excretions. The ultimate lesion is a spongy state of the primary cavitation or the sclerotic plaque, with a gradual involvement of nerve fibres in secondary degeneration. As the pathological foci are fortuitously located, this necessitates examination of the whole central nervous system. The

probable occurrence of setariasis in other parts of the world is suggested although there is at present no evidence of the existence of human setariasis. Attention is drawn to the need for more precise pathological studies of Japanese B encephalitis and of epidemic nervous diseases in children. R.T.L.

763—Japanese Journal of Pharmacology.

a. NAKAZAWA, Y. & UMOTO, I., 1951.—" A measurement of the body surface area of living *Ascaris lumbricoides*." 1 (1), 55–62.
b. YAMASAKI, H., MANNAMI, C. & MAYEDA, H., 1951.—" Some anthelmintic properties of octylchlororesorcinol against *Ascaris lumbricoides* in man." 1 (1), 63–77.

(763a) As a result of detailed measurements with calipers, Nakazawa & Umoto find that the body surface area of *Ascaris lumbricoides* can be calculated by multiplying the surface area assumed as a cylinder by 0·82 as a constant. P.M.B.

(763b) Experiments to find the cause of the varying efficacy of crystals of octylchlororesorcinol as an anthelmintic and to study their biological and physico-chemical properties showed that the most effective crystals were, surprisingly, those with a low melting point, i.e. below 53°C. and apparently containing impurities as amorphous substances; they also had much stronger interfacial activity than the less effective crystals and were slightly more toxic and more irritant to the patient. P.M.B.

764—Japanese Journal of Veterinary Science.

a. ONO, Y. & ISODA, M., 1951.—[Studies on the fascioliasis. I. Observations on the life-history of *Fasciola hepatica*.] 13 (2), 87–96. [In Japanese : English summary p. 96.]
b. NISHIYAMA, S., 1951.—[An experiment on the artificial infection of habronemiasis in the Kagoshima district.] 13 (4), 201–211. [In Japanese : English summary p. 211.]

(764a) Laboratory studies on the life-history of *Fasciola hepatica* have shown that in Japan the development of the miracidium takes 10–14 days at an incubator temperature of 28°C.–32°C., 17–18 days at 21°C.–26°C. (room temperature in early summer) and more than 30 days at 10·5°C.–20°C. (room temperature in mid-April in Tokyo). R.T.L.

(764b) Nishiyama has artificially infected two horses in the Kagoshima district with habronemiasis by transplanting *Habronema* larvae from infected flies on to artificially made abrasions on the external surface of fetlock and canon, and on the inner part of the conjunctiva of the lower eyelid. The histological pictures, which were almost identical with those seen in naturally infected cases, showed incipient inflammation. There was marked eosinophil infiltration of the corium around the larvae. R.T.L.

765—Japanese Medical Journal.

a. KOMIYA, Y. & MURASE, K., 1951.—" Efficacy of digestion method for collecting metacercariae from the fish body." 4 (1), 43–48.
b. HUNTER, III, G. W., RITCHIE, L. S., KAUFMAN, E. H., PAN, C., YOKOGAWA, M., ISHII, N. & SZEWCZAK, J. T., 1951.—" Parasitological studies in the Far East. IV. An epidemiologic survey in Yamanashi Prefecture, Honshu, Japan." 4 (2), 113–124.
c. IZUMI, S., 1951.—" Studies on food habit and inhabitable ground of *Katayama nosophora* Robson, the intermediate host for *Schistosoma japonicum*." 4 (2), 125–129.
d. KOMIYA, Y., 1951.—" On the metacercaria from the body cavity of *Ephemera* sp. naiads, presumably a larval form of *Prosthogonimus* sp." 4 (2), 131–137.
e. KOMIYA, Y. & KONDO, S., 1951.—" *Anas domestica* as a definitive host and *Ophicephalus argus* as a second intermediate host of *Clonorchis sinensis*." 4 (3), 157–161.
f. KOMIYA, Y., 1951.—" The cercaria of *Echinochasmus perfoliatus* Ratz and its excretory system." 4 (4), 239–244.
g. KOMIYA, Y., 1951.—" *Cercaria misa* n.sp., its excretory system and second intermediate host." 4 (4), 245–255.
h. KOMIYA, Y., 1951.—" *Cercaria echinolophocauda* n.sp. and its excretory system." 4 (4), 257–261.

i. RITCHIE, L. S., HUNTER, III, G. W., KAUFMAN, Jr., E. H., PAN, C., NAGANO, K., YOKOGAWA, M. & SZEWCZAK, J. T., 1951.—" Parasitological studies in the Far East. V. An epidemiologic survey in Okayama Prefecture, Honshu, Japan." 4 (5), 307–314.

j. SHIBUE, H., 1951.—" The life history of *Cercaria takahashii*, a xiphidiocercaria found in *Oncomelania nosophora*." 4 (5), 315–324.

k. OKABE, K. & SHIBUE, H., 1951.—" The second intermediate host of *Plcurogenes japonicus* Yamaguti." 4 (6), 401–409.

(765a) The digestion method is one of the most convenient means of collecting metacercariae from the bodies of fishes. The tissue is finely minced and artificial gastric juice is added. The mixture is incubated for one to four hours at 37° C., then poured into a large watch-glass; 0·7% saline is added and the supernatant fluid is removed by pipette. After this procedure has been repeated several times the metacercariae are collected by a fine pipette from the residual sediment. The numbers of metacercariae obtained from various fresh-water fishes are tabulated. R.T.L.

(765b) This report of a parasitological survey of Yamanashi Prefecture gives more detail than was presented in an earlier account of this work which appeared in *J. Parasit.*, 1948, **34**, Suppl. p.35 [for abstract see Helm. Abs., **17**, No. 313c]. The incidence of the various helminth parasites is now tabulated. On the basis of incidence no correlation is apparent between the occurrence of hookworm and various agricultural pursuits, e.g. the raising of rice, mulberries or grapes. Helminth infections were moderate in intensity but probably 10% had severe ascaris and 1% had severe hookworm disease. R.T.L.

(765c) *Katayama nosophora*, kept in the laboratory, live chiefly on common greenstuff and fresh-water algae. They are attracted to softer clayey ground and favour areas richly fertilized with decaying organic matter of vegetable origin and especially by diatomaceous mould. R.T.L.

(765d) A large metacercaria about 1·25 mm. long and 0·44 mm. wide was found in the body-cavity of *Ephemera* larvae in ponds in the suburban area of Shangai. It resembles in several respects the metacercaria of *Prosthogonimus*. A xiphidiocercaria, presumably that of this metacercaria, was present in *Segmentina schmackeri* in the same pond. In the Shangai area a *Prosthogonimus* was found in 14% of the ducks, 25% of the hens and in 6 out of 1,000 hen's eggs. R.T.L.

(765e) Although Asada succeeded in infecting *Anas domestica* and *Nycticorax nycticorax* with *Clonorchis sinensis* by feeding them on infected *Pseudorasbora parva*, Tanabe's attempt failed. In 1944 Komiya & Kondo found 17 specimens of *Clonorchis sinensis* in the gall-bladder of a duck from Shanghai. The worms were smaller than those obtained from cats and dogs. The ovaries were poorly developed, the uterus less convoluted, the testes were not completely dendritic and the vitellaria were sometimes lacking on one side. The eggs were irregular in shape and contained a few drops of a substance resembling oil droplets but no miracidia. The authors' attempts to infect ducks were unsuccessful. Encysted metacercariae of *C. sinensis* were found in *Ophicephalus argus*, thus confirming Asada's earlier report that this was an additional second intermediate host. It is recalled that *O. argus* harbours also the larva of *Gnathostoma* which, as a cutaneous infection, causes in man the so-called creeping disease and Yangtze oedema. R.T.L.

(765f) Komiya describes and figures the redia and cercaria of *Echinochasmus perfoliatus* from *Bithynia striatula* in the Shanghai area. The cerceria differs from that of *E. perfoliatus* var. *japonicus* described by Muto in the absence of head spines and gut and the presence of a row of spines on the acetabulum. It resembles also the cercaria of *E. donaldsoni* but differs from it in having a row of acetabular spines, in the absence of a gut and in the structure of the cystogenous glands. The flame cell formula is $2\times[(1+1+1+1)+$

(1+1+1)]=14. Experimental infection of a small *Pseudorasbora parva* resulted in metacercariae which resembled those of *E. perfoliatus*. R.T.L.

(765g) Near Shanghai large ophthalmo-xiphidiocercariae were seen emerging from *Segmentina schmackeri*. The cercariae possessed one pair of eye-spots, four rows of 18 hooklets each on the margin of the oral sucker opening surrounding the stylet, and small spines in two rows on the inner margin of the acetabular opening. The cercaria is named *Cercaria misa* n.sp. The redia and free-swimming cercaria, and the cercaria and metacercaria which encysted experimentally in the muscles of *Carassius auratus* and *Macropodus sinensis*, are described and figured. The flame cell formula of the mature cercaria is $2\times[(4+4+4)+(4+4+4)]$. It is considered that the adult will prove to be a papillose fluke of the Allocreadiidae. R.T.L.

(765h) *Cercaria echinolophocauda* n.sp. from *Viviparus quadratus* in the vicinity of Shanghai is a relatively large cercaria of echinostome type. It resembles the cercaria of *Euparyphium mehlis* and *C. shinjoi* but differs in size, in the number of end group spines, by the presence of a fin-like membrane on the tail and by the number and arrangement of the flame cells, of which the formula is $2\times[(3+1+1+1+3)+(3+3+3+3+3+3+3)]$. The redia and cercaria are described and figured. R.T.L.

(765i) Examination of 1,260 individuals in the Okayama Prefecture, Japan, showed that 85·6% had helminths. The incidence of *Clonorchis sinensis* at Kojo was 40·3% but only 6·4% in Okayama City and 3·9% at Notani. R.T.L.

(765j) Four species of cercaria have been reported from *Oncomelania nosophora* in Japan, viz., *Schistosoma japonicum* cercariae and *Cercaria longissima* which are fork tailed, a xiphidiocercaria (*C. takahashii*) and an ophthalmo-xiphidiocercaria (*C. okabei*). The life-cycle of *Schistosoma japonicum* only is known. Metacercariae found by Shibue in 88·9% of the fresh-water shrimp *Neocaridina denticulata*, collected in the Fukuoka and Saga Prefectures, were identified as *Maritrema caridinae*. When uninfected *N. denticulata* were exposed to *C. takahashii*, emerging from naturally infected *Oncomelania nosophora*, infection occurred. When the resulting metacercariae were fed to rats some of these were found to harbour adult worms within five days. It is doubtful, however, if a rodent is the normal definitive host as species of *Maritrema* are commonly parasitic in birds. Of 55 wild birds examined only one bird, a painted snipe (*Rostratula benghalensis benghalensis*), contained adult *Maritrema caridinae*. Naturally infected specimens of the shrimp (*Neocaridina denticulata*) and of the nymph of the dragonfly (*Anax parthenope julius*) were collected during field studies. Attempts to infect man failed. It is suggested that the genus *Maritrema* should be transferred from Heterophyidae to Lecithodendriidae. R.T.L.

(765k) In the Fukuoka and Saga Prefectures 35·5% of the fresh-water shrimp *Neocaridina denticulata* examined were infected with metacercariae. That these were metacercariae of *Pleurogenes japonicus*, which occurs in *Rana nigromaculata nigromaculata*, was proved by feeding experiments. A table sets out comparative data of the metacercariae of *P. japonicus* and of *Maritrema caridinae*. Both of these metacercariae produce eggs prematurely. R.T.L.

766—Jen-Sal Journal.

a. ANON., 1951.—"Anthol, new all-purpose anthelmintic for dogs." May 1951, p. 16.

(766a) Anthol (a trade name for anthelin with toluol as an adjuvant), when given in soft elastic capsules after proper premedication, proved highly consistent as an anthelmintic in experimental dogs. It produced catharsis and elimination of tapeworms in one or three hours and ascarids, hookworms and whipworms were passed for several days. 92·2% of 38 dogs were wormed with an incidence of nausea and vomiting in 8·86%. R.T.L.

767—Jornal do Médico. Oporto.

a. RODRIGUES, M., MARQUES, V. & FERREIRA, M., 1951.—"Cisticercose cerebral. A propósito de mais dois casos clínicos." **17** (435), 865–871.
b. COSTA MAIA, C. DA, 1951.—"A propósito de cinco casos humanos de fasciolase hepática." **18** (442), 49–66.
c. HAWKING, F., 1951.—"Filaríase." **18** (443), 108–113.

(767b) Five cases of fascioliasis hepatica in man are reported from Madeira. Fasciola eggs disappeared from the faeces after treatment with 2·5 c.c. to 3 c.c. of carbon tetrachloride which Costa Maia regards as the specific treatment. It is more rapid in effect and probably safer than emetine hydrochloride. P.M.B.

(767c) This article summarizes the published work of Hawking and his collaborators on the microfilarial periodicity of *Dirofilaria repens*, on the action of hetrazan on microfilariae and adults of *Wuchereria bancrofti* and on its value in the treatment of filariasis. P.M.B.

768—Journal Belge de Radiologie.

a. HUARD, P., OLIVIER, A. & TRAN-ANH, 1951.—"Traitement radiothérapique des hémato-lympho-chyluries filariennes." **34** (4), 498–518.

769—Journal Belge d'Urologie.

a. HENNEBERT, P., 1951.—"A propos de deux cas de kyste hydatique du rein." **19** (6), 389–414.

770—Journal of Biological Chemistry.

a. BUEDING. E. & YALE, H. W., 1951.—"Production of α-methylbutyric acid by bacteria-free *Ascaris lumbricoides*." **193** (1), 411–423.

(770a) Bueding & Yale describe in detail a technique for the separation of volatile acids containing 1 to 6 carbon atoms which they developed during their work on the metabolism of bacteria-free *Ascaris lumbricoides*. Only one ninth of the total acids formed by *Ascaris* in the presence of glucose were non-volatile, 0·3% of these being lactic acid. Acetic and propionic acids and acids with the solubility characteristics of butyric, pentanoic and hexanoic acids were produced but there was no indication of the formation of formic acid and the authors are of the opinion that the presence of formic acid as reported by other workers was probably due to the activity of contaminating bacteria. About one fifth of the volatile acids was shown to be α-methylbutyric acid, the production of which has not been previously recorded in the Metazoa although it is produced by some plants and microorganisms. An α-β-unsaturated acid with solubility characteristics of *n*-valeric acid constituted 10%–15% of the volatile acids; *n*-valeric acid was also formed. S.W.

771—Journal de Chirurgie. Paris.

a. DEMIRLEAU, J. & PERNOT, 1951.—"Technique et indications thérapeutiques de la kystectomie dans le traitement du kyste hydatique du poumon." **67** (11), 769–778.

772—Journal of the Colorado-Wyoming Academy of Science.

†a. DUNLOP, S. G. & WANG, WEN-LAN LOU, 1951.—"Studies on animal parasites in treated sewage and irrigation water." **4** (3), 27.
†b. STABLER, R. M., 1951.—"Destruction of mosquito larvae by parasitic nematodes." **4** (3), 81.
†c. LANDRAM, J. F., 1951.—"Notes on the internal parasites of deer in Wyoming." **4** (3), 81.

(772a) From raw sewage, settled sewage, chlorinated effluent, and the river just below the Denver sewage plant ascaris ova were consistently recovered and pinworm, tapeworm, hookworm, trichostrongyle, and whipworm eggs were occasionally found. Irrigation water near the head-gate on the river frequently contained ascaris ova but these

† Abstract of paper presented at the 22nd Annual Meeting of the Colorado-Wyoming Academy of Science, 1951.

tended to disappear before the flow reached the first farm. Sand filtration in a Sedgwick-Rafter filter and centrifugation in a Foerst continuous centrifuge gave an equally good recovery of ova. Zinc sulphate flotation recovered more ova than aerosol-ether-xylene sedimentation with centrifuged samples. R.T.L.

(772b) [This paper appears in full in *J. Parasit.*, 1952, **38**, 130–132. For abstract see Helm. Abs., **21**, No. 202.]

(772c) [A fuller account of this paper appears in *Univ. Wyo. Publ.*, 1951, **16**, p. 154. For abstract see Helm. Abs., **20**, No. 588b.]

773—Journal of the Faculty of Medicine of Baghdad, Iraq.

a. JAWADI, A. K. AL, 1951.—" Recurrent hydatid disease of the orbit." **15** (6), 121.

774—Journal of the Indiana State Medical Association.

a. ROTHRING, H. E. & ROBB, J. A., 1951.—" *Cysticercus cellulosae* in man. A case report." **44** (10), 949–950.

775—Journal of the Japanese Veterinary Medical Association.

a. SEZAKI, K. ET AL, 1951.—[The treatment of canine filariasis by fouadin.] **4** (4), 110–111. [In Japanese.]

776—Journal Médical Libanais.

*a. CANAAN, T., 1951.—" Intestinal parasites in Palestine." **4** (3), 163–169.

777—Journal of the Medical Society of New Jersey.

a. ROTHENBERG, F., 1951.—" Treatment of trichinosis with cortisone." **48** (11), 517.

(777a) Two cases of trichinelliasis were successfully treated with cortisone. One patient was given intramuscular injections, each of 100 mg., three times on the first day and once daily on the succeeding five days. The other received tablets at the rate of 50 mg. per day for five days. In both cases clinical symptoms disappeared completely but the leucocytosis and eosinophilia subsided only gradually. R.T.L.

778—Journal of Morphology.

a. EL-GINDY, M. S., 1951.—" Post-cercarial development of *Schistosomatium douthitti* (Cort, 1914) Price 1931 in mice, with special reference to the genital system (Schistosomatidae-Trematoda)." **89** (1), 151–185.

(778a) El-Gindy reviews the literature dealing with the classification of the growth stages of *Schistosoma japonicum* and *S. mansoni* in the definitive host and describes, in a well illustrated communication, the post-cercarial development of *Schistosomatium douthitti* in deer mice (*Peromyscus maniculatus*) and adult white mice. The mice were exposed to cercariae from naturally infected *Limnaea palustris* and experimentally infected *L. stagnalis appressa* and were exposed to bisexual and unisexual infections. El-Gindy recognizes nine stages, designated "a" to "i", in the development of the genital systems in both male and female. In the male, stage "a" is characterized by a genital primordium consisting of 12 cells and of 18 cells in "b"; the genital primordium splits into 5 indistinct cell groups in "c" and the groups become more pronounced at stage "d"; the anterior group develops into the fundament of the cirrus and the remaining groups into the testicular fundaments at stage "e"; the appearance of the vas deferens and gynaecophoric folds marks stage "f"; the lateral growth of the testicular fundaments indicates stage "g" and their lateral extension along the longitudinal axis of the worm is observed in stage "h"; sexual maturity is attained at stage "i". In the female, stage "a" is characterized by a genital primordium of 18 cells

and of 30 cells in stage "b"; the genital primordium now consists of 4 fundaments; development of the ovarian fundament on the right marks stage "c"; development of the vitelline complex and the uterine fundaments marks stage "d"; stage "e" shows growth of the ovarian fundaments and stage "f" active growth of all fundaments; longitudinal splitting of the vitelline fundament into two vitelline ducts characterizes stage "g"; at stage "h" the ovary assumes a longitudinal position and vitelline glands show; sexual maturity marks stage "i". The presence of Laurer's canal is reported in a schistosomid for the first time. The genital system does not develop at the same rate in worms of the same age. This is attributed to the rate of migration within the host affecting the availability of the essential food supply. The author records observations on the rate of growth of the body and of the suckers. P.L.leR.

779—Journal of the Osaka City Medical Center.

a. KAGIOKA, T., MIKI, T. & YOSHIDA, S., 1951.—[Some notes on the ascariasis diagnosis by means of the granules in the soft palate region.] 1 (1), 56–59. [In Japanese : English summary pp. 58–59.]

780—Journal of Pediatrics.

a. BRANT, C. H., HAIRE, S. D. & STUMPE, A. R., 1951.—"Oil of chenopodium poisoning." 39 (6), 742–744.

(780a) A case of fatal poisoning with oil of chenopodium is quoted to illustrate the importance of giving accurate directions as regards dosage. Although the doctor had prescribed a single dose only, the patient who was three years old had received one fourth of a teaspoon daily for four successive days. Focal haemorrhages were present in the lungs and subarachnoid. R.T.L.

781—Journal de Radiologie et d'Electrologie.

a. PIETRA, R., 1951.—"L'échinococcose secondaire. A propos d'un cas d'échinococcose métastatique du poumon." 32 (11/12), 925–927.

782—Journal of the Royal Army Medical Corps.

a. FOSTER, H., LEITCH, J. G. & REDSTONE, I., 1951.—"An account of a small outbreak of intestinal schistosomiasis in Eritrea." 97 (6), 455–460.

(782a) Thirteen British soldiers and three civilians who contracted schistosomiasis mansoni in Eritrea through bathing were successfully treated with intramuscular injections of fouadin or stibophen. It is recalled that the known vectors in Eritrea are *Planorbis abyssinicus*, *P. ruppellii* and, less frequently, *P. boissyi*. P.M.B.

783—Journal of the Royal Caledonian Horticultural Society.

a. DUNN, E., 1951.—"Eelworm diseases of horticultural crops." Year 1951, No. 6, pp. 175–179.

784—Journal des Sciences Médicales de Lille.

*a. DESORGHER, G. & BOCQUET, J. M., 1951.—"Kystes hydatiques multiples chez une enfant." 69 (10), 261–264.

785—Journal of the Tokyo University of Fisheries.

a. HOSHINA, T., 1951.—"Zur Entwicklungsgeschichte von *Proctotrematoides pisodontophidis* Yamaguti, 1938. I.Mitteilung. *Agamodistoma* und ihre Entwicklung." 38 (2), 247–257.

(785a) *Agamodistomum* metacercariae which are encysted in the branchial and cloacal siphon tubes of *Laternula kamakurana* are very similar in morphology to *Proctotrematoides pisodontophidis* Yamaguti, 1938 known to occur in *Pisodontophis cancrivora*. Muscle containing these cysts was fed to *Anguilla japonica* narcotized with 0·2% urethan. The

metacercariae developed to sexual maturity and began to lay eggs in four weeks. The metacercariae and adults are figured and described. R.T.L.

786—Journal d'Urologie Médicale et Chirurgicale.

a. SURRACO, L. A., 1951.—" Sur le traitement du kyste hydatique rénal." **57** (11/12), 794–802.

787—Kagoshima Journal of Medicine.

*a. NAGAYOSHI, Y., KUSUNOKI, M., TSUKAMOTO, M. & KOMURA, T., 1951.—[On the final host of Ohira lung-fluke (*Paragonimus ohirai* Miyazaki, 1939).] **24**, 43–44. [In Japanese: English summary.]

(787a) The authors record finding *Paragonimus ohirai* in the lungs of a dog. [Based on an abstract in *Vet. Bull.*, **22**, p. 262.] S.W.

788—Karakulevodstvo i Zverovodstvo.

*a. NIKOLSKI, Y. D., 1951.—[Prevention of helminthiasis of Karakul sheep in Uzbekistan conditions.] **4** (3), 52. [In Russian.]
*b. EREMIN, V. M., 1951.—[Combating coenurus infection of sheep.] **4** (6), 62–63. [In Russian.]

789—Khirurgiya. Moscow.

a. OSIPOV, B. K., 1951.—[Echinococcosis of the heart.] Year 1951, No. 9, pp. 75–77. [In Russian.]

790—Klinicheskaya Meditsina. Moscow.

a. SEMENOV, V. S., 1951.—[Case of spinal echinococcosis. Echinococcal spondylitis.] **29** (11), 86–88. [In Russian.]
b. GALENOK, A. I. & CHUGAI, T. S., 1951.—[Case of extraction of tapeworm with aid of the duodenal catheter.] **29** (12), 80. [In Russian.]

791—Klinische Monatsblätter für Augenheilkunde und für Augenärztliche Fortbildung.

a. TÓTH, Z., 1951.—" Symptome von Keratoconjunctivitis lymphatica bei Helminthiase." **119** (1), 16–19.

792—Kungl. Fysiografiska Sällskapets i Lund Förhandlingar.

a. ALLGÉN, C., 1951.—" On some species of freshwater- and terrestrial nematode genera, found inhabitating southern marine waters." **21** (19), 177–184.

(792a) Among very large numbers of marine nematodes collected by the Swedish Antarctic Expedition (1901–1903) Allgén found a few representatives of soil and freshwater genera which are described and figured. In addition to examples of *Mononchus gerlachei* de Man, the following species new to science are briefly described, viz., *Plectus grahami* n.sp., *Plectus gisléni* n.sp. and *Cephalobus incisocaudatus* n.sp. T.G.

793—Kyushu Agricultural Research.

a. HUKANO, H. & YOKOYAMA, S., 1951.—[Studies on the white tip of rice plant, with special reference to the damage and varietal resistance.] No. 8, pp. 89–90. [In Japanese.]
b. NISHIZAWA, T. & YAMAMOTO, S., 1951.—[Studies on the varietal resistance of rice plant to the rice nematode disease 'Senchû-Singare Byô'. II. A test of the leading varieties and part of breeding lines of rice plants in Kyushu.] No. 8, pp. 91–92. [In Japanese.]
c. GOTO, S. & HASUKO, E., 1951.—[On the treatment with chloropicrin for the nematode root-rot of sweet potato.] No. 8, pp. 95–96. [In Japanese.]

794—Landwirtschaftliche Zeitschrift für die Rheinprovinz.

*a. GOFFART, H., 1951.—" Nematoden, eine ernste Gefahr für den Ackerbau." **118**, 1067–1068.

795—Landwirtschaftliches Wochenblatt für Westfalen und Lippe.

*a. GOFFART, H., 1951.—" 1951—ein Nematodenjahr." **108A**, 1703–1704.

796—Lunds Universitets Årsskrift.

a. WINGSTRAND, K. G., 1951.—" The mountain fauna of the Virihaure area in Swedish Lapland. Hirudinea." N.F. avd. 2, **46** (2), 160–161.
b. MONTÉN, E., 1951.—" The mountain fauna of the Virihaure area in Swedish Lapland. Nematomorpha." N.F. avd. 2, **46** (2), 162–170.
c. BRINCK, P., 1951.—" The mountain fauna of the Virihaure area in Swedish Lapland. Nematoda. Cestoda." N.F. avd. 2, **46** (2), 171–173.

(796a) Wingstrand records finding one specimen of *Helobdella stagnalis* in a calm bay of the stream near Ketjaure and two specimens of *Glossiphonia complanata* in the vegetation of the shore of a small lake south of Ketjokk. He is of the opinion that the latter probably belong to the subspecies *concolor*. S.W.

(796b) Montén found four species of *Gordionus* in material from the Virihaure area. Of these, only *Gordionus scaber scaber* has been previously recorded in Sweden. *G. alpestris* has been reported from the Alps; two are figured and described as new to science, namely, *G. lapponicus* n.sp. and *G. brunneus* n.sp. S.W.

(796c) Brinck lists and annotates the nematodes and cestodes collected in the Virihaure area. The following are new records for Sweden: *Porrocaecum ensicaudatum* from *Pluvialis apricarius altifrons*, *Aprocta* sp. from *Luscinia suecica*, *Diphyllobothrium* sp. (possibly *D. ditremum*) in chars and a trout, and *Hymenolepis microps* in *Lagopus l. lagopus*. S.W.

797—Lyon Chirurgical.

a. TAIANA, J. A., 1951.—" Kystes hydatiques du poumon." **46** (7), 784–790. [English summary p. 789.]

798—Magyar Állatorvosok Lapja.

a. PELLÉRDY, L., 1951.—" A dunántúli májmételyirtás elsö évi tapasztalatai." [Experiences on the control of liver-fluke disease in the Transdanubian area during the first year.] **6** (8), 236–238.

799—Magyar Sebészet. Budapest.

*a. KERENYI, I., 1951.—" Operált csigolya-echinococcus." [Surgery in vertebral echinococcosis.] **4** (4), 272–274.

800—Market Growers Journal.

*a. BURROUGHS, D., 1951.—" The nematode and the vegetable grower." **80** (3), 30–31.

801—Marseille Chirurgical.

a. MOIROUD, P., DOR, J. & SPITALIER, J., 1951.—" Présentation d'un opéré récent de kyste hydatique du poumon." **3** (1), 73–74. [Discussion pp. 74–75.]
b. ESCARRAS, A. & NAVATEL, P., 1951.—" Kyste hydatique du sacrum." **3** (4), 493–494.
c. DOR, J., REBOUD, E. & DE CUTTOLI, 1951.—" Le traitement moderne du kyste hydatique du poumon non suppuré." **3** (4), 501–505.
d. DOR, J. & REBOUD, E., 1951.—" A propos de l'ablation des kystes du poumon avec leur adventice." **3** (5), 571–574.
e. BOLOT, F., 1951.—" Kyste hydatique de l'utérus." **3** (5), 643–644.

802—Médecine. Paris.

*a. DUBAU, R. & BOURDET, P., 1951.—" Le traitement chirurgical du kyste hydatique du poumon Méthodes et procédés opératoires." **32** (11), 13–20.

803—Médecine et Hygiène. Geneva.

a FUST, B., 1951.—" L'allergie dans les infections helminthiques." 9 (204 bis), 406.

804—Mededelingen van het Instituut voor Rationele Suikerproductie. Bergen-op-Zoom.

a. HIJNER, J. A., 1951.—" De gevoeligheid van wilde bieten voor het bietencystenaaltje (*Heterodera schachtii*)." 21 (1), 1–13. [English summary p. 11.]

(804a) Hijner tested eight species and one variety of *Beta* for susceptibility to *Heterodera schachtii*. All were susceptible except *Beta patellaris*, *B. webbiana* and *B. procumbens*. Root diffusate from these three stimulated larval hatching equally with sugar-beet root diffusates. Larvae enter the roots of *B. patellaris* but fail to develop there. This species is the most suitable for field cultivation. It was sown at the beginning of May in an infested field; growth was slow at first but increased rapidly after June. The living contents of cysts from the soil decreased by about 90% after 5 months growth of *B. patellaris*. When it was sown at the end of July the living cyst contents decreased by about 50%. When seed was sown in pots and the plants planted out in an infested field, a 60% decrease resulted after three months. It is suggested that the luxuriant foliage of *B. patellaris* would be a good green manure. M.T.F.

805—Medical Bulletin of the European Command, U.S. Army.

*a. HOFFMAN, F. G., 1951.—" Hookworm infection. Report of four cases." 8 (11), 486–492.

806—Medical Journal of Australia.

a. BACKHOUSE, T. C. & BEARUP, A. J., 1951.—" Ascariasis in Sydney children and its relation to the urban backyard." 38th Year, 2 (18), 595–596.

(806a) An investigation of the soil from eleven backyards of houses in a densely populated area in the city of Sidney showed Ascaris eggs to be present in ten. The houses were substandard and the backyards were narrow, unpaved and relatively sunless; there were poor facilities for personal hygiene. One child with Ascaris could therefore introduce a potential source of infection for a whole street as visiting children playing on these contaminated yards could later infect their own yards. The concreting or asphalting of the yards is recommended. Small plots of ground can be treated by digging in the surface soil or, as a temporary measure, by live steam sterilization. Mothers should be warned of these sources of infection. R.T.L.

807—Medical Radiography and Photography.

a. BOHROD, M. G., 1951.—" Echinococcus disease." 27 (3), 82–87.

808—Medicina y Cirugía de Guerra. Madrid.

*a. ALVAREZ ASTOR, J., 1951.—" Nota clínica médica. Quiste hidatídico de hígado." 13 (1/2), 41–42.

809—Medicina Contemporânea.

a. OLIVEIRA, H. DE, 1951.—" Mais um caso autóctone de strongyloidose." 69 (9), 479–490.
b. GUERRA, A. C., 1951.—" A cisticercose meningencefálica." 69 (12), 665–690.

(809a) A case of strongyloidiasis reported from Espinhal, Portugal, is thought to be only the fifth autochthonous case in the country since 1914. The source of infection could not be traced but may have been an individual from the island of Fernando Pó with whom the patient had associated for several years. P.M.B.

810—Medicina Española.

a. ROMERO CALATAYUD, A., 1951.—" Nuevas aportaciones clínicas radiológicas y terapéuticas acerca del problema del parasitismo intestinal por vermes." Año XIV, 26 (149), 91–100.

811—Medicine and Biology. Tokyo.

*a. SAITO, M., & OISHI, J., 1951.—" Natural infection of *Paragonimus ohirai* (Miyazaki) in pigs." 18, 142–145.

*b. MIYAZAKI, I., 1951.—" Natural infection of cats in Kyushu with *Gnathostoma* and *Clonorchis sinensis*." 18, 252–254.

(811a) *Paragonimus ohirai* occurred in 1% of the pigs bred in Miyazaki and Kagoshima districts and slaughtered at the Tokyo abattoir. [Based on an abstract in *Vet. Bull.* **22**, p. 399.] R.T.L.

812—Meditsinskaya Sestra. Moscow.

*a. SEMENOVA, N. E., 1951.—[Therapy and prevention in helminth infections.] Year 1951, No. 10, pp. 16–20. [In Russian.]

813—Medizinische Klinik.

a. MOHR, W. & KNÜTTGEN, H., 1951.—" Die Therapie der Leberegelerkrankung des Menschen (Fasciolosis oder Distomatose). Bemerkungen zu der Arbeit von Hans Moormann 'Die Leberegelkrankheit beim Menschen' [Med. Klin. 45, 1950, S.4]." 46 (32), 870–872.

b. ZYLKA, N., 1951.—" Die Röntgenuntersuchung bei Askaridiasis." 46 (47), 1227–1229.

(813a) As a supplement to Moormann's earlier paper which appeared in *Med. Klin.*, 1950, 45, 4–8, Mohr & Knüttgen report three cases of liver-fluke disease in German children. They point out the risks to man in areas where sheep are heavily infected and state that the prognosis of heavy, untreated human infection is grave. Treatment with emetine (intravenous injections of 0·006 mg. to 0·01 mg. per kg. body-weight) is recommended. In an appended note, Moormann states that the number of human cases of liver-fluke disease recorded for Germany is now nine. He confirms the gravity of severe infections but recommends treatment with hexachlorethane rather than emetine. A.E.F.

814—Medizinische Welt.

a. KIKUTH, W., 1951.—" Epidemiologische Eindrücke in Ägypten." 20 (13), 425–429; (16), 489–492.

b. FEDTKE, H. & ULRICH, G., 1951.—" Bekämpfung der Nematodeninfektionen, besonders der Oxyuriasis mit einem keratinolytischen Ferment (Nematolyt)." 20 (45), 1414–1416.

c. HANNAK, S., 1951.—" Symptomatologie und Therapie der Trichuriasis." 20 (49), 1550–1552.

(814a) Kikuth reports on a two months' visit to Egypt in 1950 to study the epidemiology of communicable diseases. It is estimated that from 12 to 16 millions, out of a total population of 20 millions, have Schistosoma infections. The sharp demarcation of the differing endemic areas of *S. haematobium* and *S. mansoni* has not been fully explained. The severest infections are found in lower Egypt in the "perennial irrigation" districts. Active steps are being taken to destroy snail vectors with copper sulphate and 50% of the irrigation waters have so far been treated. Hookworm disease, from which it is estimated that 5 to 6 millions suffer, has an incidence of 90% in some districts. Filariasis bancrofti is endemic in only a few areas where fresh-water springs serve as breeding places for Culex; Damietta, formerly an infected area, has been free since canalization was introduced. *Taenia saginata* is more common than *T. solium*, the latter occurring primarily among the poorer classes. A.E.F.

(814b) Fedtke & Ulrich have treated 62 children infected with Enterobius with a total dose each of 60 gm. of "Nematolyt" (a keratinolytic enzyme which dissolves the integument of the worms); three doses of 10 gm. were given on two consecutive days. In 56 cases

(i.e. 90%) a complete cure was effected. The substance was well tolerated and slight stomach upsets (which occurred only in one or two cases) were the only side effects. In six out of seven cases of mixed infection with Enterobius and Ascaris, treatment was also successful. A.E.F.

(814c) Hannak considers that *Trichuris trichiura* infection is more common in Germany than is generally supposed: he quotes figures from various districts showing an infection rate varying between 3% and 35%. He describes the symptoms and reports that treatment with "Vermizym" was 70% successful. A.E.F.

815—Mémoires de l'Académie de Chirurgie. Paris.

a. CAPETTE, L., 1951.—" Congrès Mondial du Kyste Hydatique." **77** (22/24), 750.
b. BOURGEON, R., 1951.—" Traitement des kystes hydatiques compliqués du foie par la kystectomie associée à l'épiplooplastie." **77** (22/24), 765–768.
c. AREL, F., 1951.—" Deux cas de kyste hydatique du rein gauche avec multiples kystes dans les poumons." **77** (29/30), 938–943.

816—Mémoires de l'Institut Royal Colonial Belge. Section des Sciences Naturelles et Médicales.

a. SCHWETZ, J., 1951.—" Recherches malaco-schistosomiques aux Lacs Albert, Edouard et Kivu et dans plusieurs localités voisines." **19** (5), 73 pp.

(816a) Reporting on a nine months' investigation on behalf of l'Institut de Recherche Scientifique en Afrique Centrale, Schwetz presents a detailed survey of the intestinal schistosomiasis problem in the following areas: (i) the western side of Lake Albert, where the incidence is extremely high among the people of the many European fisheries; (ii) the hinterland of Lake Albert (including the plateau areas of Bogoro, Blukwa and Nyarembe) where many planorbids are present in the streams and infection is frequently introduced by the lakeside dwellers; (iii) Bunia where the situation is now fairly well under control, and Irumu where the incidence is at least 40% and no systematic control measures exist; (iv) the north and south of Lake Edward, where a mild form of schistosomiasis is present in less than 10% of the population; (v) the north of Lake Kivu around Kisenyi and Goma where the problem is slight, and the Bay of Bobandana where the incidence was as high as 55% in one group examined and where the position is extremely serious in spite of the presence of three medical services. Each area report includes a map, details of molluscan infection and in some the incidence of intestinal parasites. Each section concludes with a summary. P.M.B.

817—Memórias do Instituto Butantan.

a. RUIZ, J. M., 1951.—" Estudo do sistema excretor de *Leptophyllum stenocotyle* Cohn, 1902 (Trematoda : Plagiorchiidae)." Year 1950–51, 23, 45–49. [English summary p. 47.]

(817a) The excretory system of the plagiorchid *Leptophyllum stenocotyle* is described and figured. From a study of the excretory system *L. tamiamiensis* is considered to be a valid species and *L. travtrema* to be synonym of *L. stenocotyle*. It is pointed out that the excretory systems of the genera *Leptophyllum* and *Paurophyllum* are identical. R.T.L.

818—Minerva Chirurgica. Turin.

a. FAGÀ, I., 1951.—" Sopra un caso di cisti da echinococco paravertebrale cervicale." **6** (23), 721–723.

819—Minerva Medica.

a. RICCI, G. C., 1951.—" Considerazioni critiche su alcuni casi di cisti da echinococco a localizzazione splenica e parasplenica." Anno 42, **2** (90), 1242–1248.

820—Mississippi Doctor.

a. FATHEREE, J. P., CARRERA, G. M. & BEAVER, P. C., 1951.—"*Enterobius vermicularis* in the human uterus. Report of a case." **29** (7), 159–161.

821—Monatshefte für Praktische Tierheilkunde.

a. HERTER, R., 1951.—"Zum Thema 'Ferkelsterben'." **3** (4), 235–238.

(821a) Herter is concerned about the increasing mortality among sucking pigs and in the course of his notes makes brief reference to helminth infections as a contributory cause. When previously healthy animals begin to show signs of unthriftiness from the age of 5–6 weeks, infection with animal parasites must be suspected: diagnosis should be based on faecal counts and (post mortem) a careful examination of the whole intestine. Strongyloides infection is considered to be the most important, with ascariasis of less frequent occurrence. Phenothiazine, accompanied by strict hygiene measures, is the remedy of choice against Strongyloides. A.E.F.

822—Monitore Zoologico Italiano.

a. BRUNETTI, B., 1951.—"Osservazioni su alcune specie del genere *Euchromadora* de Man 1886. (Nematoda—Chromadoridae)." **59** (7/12), 73–81.

(822a) Brunetti redescribes and figures *Euchromadora striata*, gives brief notes on *E. africana* and *E. adriatica* and differentiates *E. tyrrhenica* n.sp. from *E. striata* by the following characters: it is smaller in size, the oesophagus is shorter and has a bulb, the tail is shorter and thicker and the articulations are only visible as two median lines of dots. R.T.L.

823—Münchener Medizinische Wochenschrift.

a. SCHAPER, G., 1951.—"Über klinische Erfahrungen mit Vermizym." **93** (46), 2310–2311.

(823a) Schaper administered "Vermizym" (a keratinolytic enzyme) to 16 children with Ascaris infection and in only seven cases was there a cure. In seven of the nine unsuccessful cases chenopodium oil was given and each child passed more worms, all of which were living and showed no signs of even partial digestion. Schaper concludes that "Vermizym" shows no improvement on many other anthelmintics already in use. A.E.F.

824—Nachrichtenblatt des Deutschen Pflanzenschutzdienstes.

a. GOFFART, H., 1951.—"Zur Frage der Verwendbarkeit von E 605 in der Nematodenbekämpfung." **3** (11), 164–167.

(824a) Since some measure of control of leaf eelworms can be achieved with E 605f, Goffart tested this product against stem eelworm and potato root eelworm. He obtained a reduction of stem eelworm attack in oats by applying to the soil 10 litres per sq. m. of 0·1% solution of E 605f. There was no attack with 0·5% and 1% solutions. Using soil infested with potato root eelworm in pots, he found that 25 litres per sq. m. of 0·05% and 0·1% E 605f resulted in no cysts being formed on the roots of potatoes grown the same year but in the same soil the following year some cysts were produced. After concentrations of 0·5% and 1%, the roots were free of cysts in both years. In field experiments, 10 litres of 0·1% solution per sq. m. was effective. Goffart concludes that for the control of nematodes entering the plant from the soil, E 605f must be used in doses which are too high to be practicable. M.T.F.

825—Neurocirugía. Santiago.

*a. VALLADARES, H., CONTRERAS, M. & DONOSO, M., 1951.—"Cisticercosis cerebral. Criterio quirúrgico." **8**, 61–71.

826—New England Journal of Medicine.

a. LUONGO, M. A., REID, D. H. & WEISS, W. W., 1951.—" The effect of ACTH in trichinosis. A clinical and experimental study." **245** (20), 757–760.

(826a) ACTH appears to alter favourably the clinical course of trichinosis in man. In three severe cases treated with the relatively small dosage of 40 mg. daily in doses of 10 mg. at four-hourly intervals for six days, the subjective symptoms, fever and the number of eosinophils were strikingly reduced. ACTH failed to reduce the mortality in guinea-pigs experimentally infected with larvae far in excess of the minimum lethal dose. There was, however, a reduction of the toxic effects and a temporary diminution in the eosinophilia and the treated animals survived significantly longer than the controls. No anatomical changes in the larvae were noted. R.T.L.

827—Nieuwe Veldbode.

*a. ANON., 1951.—" L'anguillule du kyste du pois et la maladie de Saint-Jean." No. 22.

(827a) *Heterodera göttingiana* was found in the roots of varieties of peas with St. John's disease which were resistant to infection with *Fusarium oxysporum*. [Based on an abstract in *Hort. Abstr.*, **22**, No. 536.] R.T.L.

828—Nordisk Jordbrugsforskning.

a. AHLBERG, O., 1951.—" Nematodproblemet i nordiskt jordbruk." **33** (2/3), 456–460.

(828a) Ahlberg mentions as some important plant-parasitic nematodes in Sweden, *Ditylenchus dipsaci*, *Heterodera schachtii* and *H. rostochiensis* and also a few which are not so important, namely *Ditylenchus radicicola*, *Anguina tritici*, *Pratylenchus pratensis* and *Heterodera marioni*. Most of the paper is devoted to a discussion of the potato nematode (*H. rostochiensis*) and the control of it. Treatment of soil with chemicals seems to be the most useful method in controlling this nematode. S.B.

829—Nordisk Medicin.

a. BJÖRKENHEIM, G., 1951.—" Neurologiska fynd vid perniciös maskanemi." **46** (50), 1860–1862. [English summary p. 1862.]

b. BRUMMER, P., 1951.—" Resultat av maskfördrivning hos anemiska och icke-anemiska maskbärare." **46** (50), 1862–1863. [English summary p. 1863.]

(829a) Björkenheim reports that 75 out of 95 patients suffering from Diphyllobothrium anaemia showed subacute degeneration of the spinal cord and peripheral nerve degeneration. Partial or complete remission of the nervous symptoms followed expulsion of the tapeworms. S.W.

(829b) Treatment with filicin against Diphyllobothrium in man was more successful in those patients who were not suffering from anaemia than in those who were. S.W.

830—Ophthalmologica. Basle.

a. FRIEDMANN, M., 1951.—" Thelaziasis der Conjunctiva. Ein Nachtrag." **122** (4), 252–254.

(830a) Friedmann supplements his earlier account of thelaziasis of the human conjunctiva [for abstract see Helm. Abs., **18**, No. 721a] with a description of a case which occurred in San Diego County, California, near the Mexican border. The worm recovered was identified by W. B. Herms as *Thelazia californiensis*. It is suggested that infection was acquired by drinking from pools containing embryos from infected animals which had previously used the same pool for drinking purposes. A.E.F.

831—Osaka Daigaku Igaku Zassi.

a. FUSHIMI, J., 1951.—[Studies on *in vitro* test of ascaricides (Report 3). The worm-side factors upon the results of *in vitro* test of hexylresorcinol. (No. 2).] 3 (2), 145–152. [In Japanese : English summary p. 145.]

b. FUSHIMI, J., 1951.—[Studies on *in vitro* test of ascaricides (Report 4). On the relationship between worm-side factors and lethal time of pig ascarids under the influence of hexylresorcinol.] 3 (3), 223–229. [In Japanese : English summary p. 223.]

c. NAGAI, A., 1951.—[Influences of the anthelmintics on the egg-laying capacity of the pig ascarids *in vitro*. (Report 1) Egg-laying capacity of the ascarids in 1% saline solution. (Report 2) Egg-laying capacity of the ascarids, after immersing in 1/6000 hexylresorcinol 1% saline solution.] 3 (3), 231–246. [In Japanese : English summary pp. 231–232.]

d. NAGAI, A., 1951.—[Influence of the anthelmintics on the egg-laying capacity of the pig ascarids *in vitro*. (Report III) Egg-laying capacity of the ascarids, after immersing in 1/20,000 hexylresorcinol 1% saline solution.] 3 (4), 335–343. [In Japanese : English summary p. 335.]

e. TAKEYAMA, O., 1951.—[On the egg-production of the human ascarids expelled by various anthelmintics (Report II). In case of hexylchlororesorcinol and macnin (a preparation of digenia simplex).] 3 (5), 375–385. [In Japanese : English summary p. 375.]

f. FUSHIMI, J., 1951.—[Studies on *in vitro* test of ascaricides (Report 5).] 3 (5), 387–392. [In Japanese : English summary p. 387.]

g. NAGAI, A., 1951.—[On the influences of anthelmintics upon the number of eggs of the human ascarids in feces (Report IV). In case of the administration of macnin (a sample of digenia simplex).] 3 (5), 393–401. [In Japanese : English summary p. 393.]

(831a) In *in vitro* tests on *Ascaris lumbricoides* of the pig with 1:6,000 of hexylresorcinol in 1% saline solution, the lethal time varies with length, thickness, weight and colour. R.T.L.

(831b) In *in vitro* tests on *Ascaris lumbricoides* of the pig, 1:4,000 and 1:8,000 of hexylresorcinol in 1% saline solution, the lower the concentration, the longer the lethal time and the more considerable are the differences due to worm factors. R.T.L.

(831c) Experiments in which *Ascaris lumbricoides* from pigs were immersed in 1% saline solution at 38°C. showed that after the addition of hexylresorcinol, immersion for 30 minutes temporarily and partially inhibited egg-laying for the first three days and shortened the average survival time of the worms. R.T.L.

(831d) The average life of *Ascaris lumbricoides* of the pig in 1:20,000 hexylresorcinol in 1% saline at 30°C. was 3·6 days and at 38°C., 2·1 days. Egg-laying capacity was reduced in both experiments. R.T.L.

(831e) That hexylresorcinol affects the egg production of *Ascaris lumbricoides* is shown by the fact that over half, after expulsion, failed to produce eggs even at 30°C. to 38°C. The inhibitory effect of macnin was very slight. The epidemiological significance of egg production by those Ascaris expelled by these drugs during the summer months in Japan should not be overlooked. R.T.L.

(831f) Although cyclo-hexyl-chloro-resorcinol is not related closely in chemical structure to hexylresorcinol, its effect on Ascaris of the pig is similar. R.T.L.

(831g) The administration of macnin reduced the number of Ascaris eggs in the human faeces irrespective of the evacuation of the worms. The egg count reached the minimum in about nine days and then gradually increased to a constant number in about two weeks. This effect is similar to that of santonin. It is concluded that the efficacy of macnin can be determined by making an egg count two weeks after its administration. R.T.L.

832—Oyo-Dobutsugaku-Zasshi. (Magazine of Applied Zoology.) Tokyo.

a. KUME, S., 1951.—[On the relation between blood sucking and the number of infective larvae of filarid worms remaining in the proboscis of mosquitoes.] 16 (3/4), 135–141. [In Japanese : English summary p. 141.]

833—Oyo-Kontyū. (Nippon Society of Applied Entomology.)

a. OKADA, T., 1951.—[Note on the biological strain of *Heterodera marioni* (Cornu). Preliminary report.] [Abstract.] **7** (2), 83–84. [In Japanese.]

834—Parazitologicheskii Sbornik.

a. BIKHOVSKI, B. E., 1951.—[*Tetraonchoides*, a new genus of monogenetic trematodes.] **13**, 29–34. [In Russian.]
b. PAVLOVSKI, E. N. & SONDAK, V. A., 1951.—[On the specific differences between the whipworm of man and swine.] **13**, 35–44. [In Russian.]
c. BIKHOVSKAYA-PAVLOVSKAYA, I. E., 1951.—[The variation of the morphological characters and its significance in the classification of the trematodes of the genus *Leucochloridium* Carus, 1835.] **13**, 45–74. [In Russian.]
d. DUBININA, M. N. & SERKOVA, O. P., 1951.—[Nematodes of birds hibernating in southern Tadzhikistan.] **13**, 75–95. [In Russian.]
e. GUSEV, A. V., 1951.—[Notes on the parasites of the Ussouri racoon (*Nyctereutes procyonoides* Gray, 1834).] **13**, 96–104. [In Russian.]

(834a) A new family the Tetraonchoididae belonging to the order Dactylogyridea, is based on a new genus, *Tetraonchoides* and is closely related to the Tetraonchidae. In the structure of the intestine and the number of the lateral hooks *Tetraonchoides* shows relationships with the Tetraonchidae, while some other characters e.g. the highly developed opisthaptor recall the Monocotylidae. Two species of *Tetraonchoides* are described, *T. paradoxus* n.g., n.sp. on the gills of *Uranoscopus scaber* from the Black Sea, and *T. japonicus* n.sp. on the gills of *Uranoscopus japonicus* from the Japan Sea. G.W.

(834b) The authors quote the history of the controversy with regard to the validity of the human and swine whipworms of the genus *Trichuris*. Both species are regarded as distinct for the following reasons. The chromosome number is 4 in the human species and 6 in the swine species (as shown by Dinnik, 1938). They do not give rise to cross infection (as shown by Strom & Sondak, 1938, and Tukalevski, 1940). The statistical data are different (as shown by Sondak, 1948). The swelling of the distal part of the extruded spicular receptacle differs, as shown by the new observations of the authors, in the human species the swelling is goblet-shaped while in the swine species it is mace-shaped. Twenty relevant references are cited. G.W.

(834c) The author analyses the individual and specific variability of various characters which have been given significance by previous authors in the differentiation of the species of *Leucochloridium*. The following characters were studied: the shape and the size of the body, and the comparative size and situation of the suckers, intestinal tract and gonads. The conclusion is drawn that their individual variability precludes the use of the following characters for the differentiation of species, viz., the situation of the suckers, the relative size of the pharynx, the width of the intestinal branches, the anterior limit of the vitellaria and the shape and size of the gonads. The most relevant characters are: the posterior limits of the yolk glands, the position of the uterine coils with respect to the caeca and the relative position of the gonads. When the species were critically reviewed by the criteria described above, 18 of them proved to be synonyms and the validity of one species was re-established. As a result of this study 10 species are regarded as valid and a key to them is given. The following synonyms are quoted: *Leucochloridium* sp. of Witenberg, 1925 and *L. vireonis* McIntosh, 1927; *L. certhiae* McIntosh, 1927; *L. mniotiltae* McIntosh, 1927, *L. seiuri* McIntosh, 1932, *L. dryobatae* McIntosh, 1932, *L. cardis* Yamaguti, 1939, *L. witenbergi* Skryabin, 1948 (=synonyms of *L. macrostomum*), *L. insigne* of Witenberg, 1925, nec Looss, 1899, *L. pricei* McIntosh, 1932, *L. variae* McIntosh, 1932, *L. cyanocittae* McIntosh, 1932, *L. melospizae* McIntosh, 1932, *L. sime* (Yamaguti, 1935) (=synonyms of *L. actitis* McIntosh, 1932), *L. insignis* Looss, 1899, nec Witenberg, 1925, *L. turanicum* Solovev, 1912, *L. flavum* Travassos, 1922, *L. hypotaenidiarum* Tubangui, 1932, *L. sorae* McIntosh, 1927 (=synonyms of *L. holostomum* (Rudolphi, 1819). There is a list of the host species and of the geographical distribution of all valid species. G.W.

(834d) The worm burden of 500 birds was studied; 24·2% harboured nematodes belonging to 43 species. No new species were established. The following corrections are proposed: *Epomidiostomum uncinatum* (Lundahl, 1848), synonym *E. anatinum* Skryabin, 1916; *Desmidocercella numidica* (Seurat, 1920), synonym *Pharyngosetaria marcinowskyi* (Skryabin, 1925) Lubimov, 1937. The authors classify birds in three groups according to their oecology and feeding habits which are the main factors contributing to the intensity of infection, viz., (i) living on water and feeding mainly on fish (Pelecaniformes etc.), (ii) living near water and feeding on mixed food (Ardeiformes, Anseriformes, etc.) and (iii) not living near water and feeding mainly on grain (Passeriformes etc.). Some of the birds, while hibernating in southern Tadzhikistan, lose the nematodes which they acquired in north Siberia, others retain them all the time, while some acquire the helminths only while in the south and lose them before migrating to the north e.g. *Dispharynx spiralis*, *Physaloptera malleus*. G.W.

(834e) Forty-five raccoons, originating from the stock from the Far East now distributed in the forests of European Russia, were examined. Twenty-four helminth species were established during the winter season. European animals lost some of their Far Eastern parasites and acquired only one new one. There were intensive infections only of *Alaria alata*, *Uncinaria stenocephala* and, in a single case, of *Mesocestoides lineatus*. G.W.

835—Pediatría Prática. São Paulo.

a. CASTRO GOMES, J. DE, 1951.—"Um caso de obstrução intestinal aguda por *Ascaris lumbricoides*." **22** (5), 181–182. [English summary p. 182.]

836—Pediatrics. Springfield, Ill.

a. JUNG, R. C. & BEAVER, P. C., 1951.—"Clinical observations on *Trichocephalus trichiurus* (whipworm) infestation in children." **8** (4), 548–557. [Spanish summary p. 557]

837—Pediatriya. Moscow.

a. KOVIRZINA, E. D., 1951.—[Application of hexylresorcinol in the treatment of ascariasis and trichocephaliasis in children.] Year 1951, No. 3, pp. 53–55. [In Russian.]
b. EPSHTEIN, S. I., 1951.—[Simple method of administration of male fern extract without capsules.] Year 1951, No. 3, p. 60. [In Russian.]

(837a) Thirty-eight cases of ascarid and whipworm infestation in children (ages varying from 3–15 years) were treated with hexylresorcinol at a dose rate of 0·1 gm. for one year of age. The efficacy was 84% against ascarids and 76% against whipworms. Toxic effects, in a varying degree, were produced in ten children. C.R.

(837b) Epshtein describes the administration of male fern extract as follows: into a small glass put 2–3 gm. of sugar, add cold water to three-quarters of the volume followed by 1·0 or 0·5 gm. of male fern extract. This is mixed and then given to the patient. By this method the dose of male fern extract is reduced for children five years old to 2 gm. and seven years old to 2·5 gm. C.R.

838—Pharmazeutische Zentralhalle für Deutschland.

a. OELKERS, H. A., 1951.—"Zur Frage der Austestung anthelmintisch wirkendes Stoffe an Würmern in vitro." **90** (6), 188–194.

(838a) *In vitro* experiments demonstrated that dodecylresorcinol in concentrations of 0·25 to 0·35 mg. per cent in tap-water killed *Enchytraeus albidus* in 24 to 48 hours; the lowest lethal concentration (death in three to five days) was 0·16 to 0·17 mg. per cent. Corresponding tests with hexylresorcinol resulted in 0·4 mg. per cent being fatal in 24 hours, while 0·25 to 0·35 mg. per cent killed in 48 to 72 hours; 0·2 mg. per cent was rarely, and 0·17 mg. per cent never, lethal. In experiments with Ascaris, a 5 mg. per cent solution of dodecylresorcinol was fatal in 48 hours and 10 and 15 mg. per cent in 18 to 24 hours. In

control tests with hexylresorcinol, Ascaris was killed in 18 to 24 hours by 5 mg. per cent, in three to four hours by 10 mg. per cent and in 1½ to two hours by 15 mg. per cent. These results differ from those obtained by earlier workers who reported that dodecylresorcinol was practically non-toxic to worms. Oelkers discusses the technique of *in vitro* testing of anthelmintics. A.E.F.

839—Pharmazie. Berlin.

a. OELSSNER, W., 1951.—"Santonin. 1.Mitteilung." 6 (10), 515–520.

(839a) In this first part of his review of santonin, Oelssner deals with the following aspects: (i) general and historical notes; (ii) botany of *Artemisia* spp.; (iii) santonin content of *Artemisia* and recovery of santonin from the plants; (iv) chemistry of santonin; and (v) qualitative and quantitative determination of the drug. There are 85 references to the literature. A.E.F.

840—Philippine Journal of Science.

a. YUTUC, L. M., 1951.—"Observations on Manson's tapeworm, *Diphyllobothrium erinacei* Rudolphi, 1819, in the Philippines." 80 (1), 33–51.

b. MASILUNGAN, V. A., 1951.—"Preliminary note on the effect of fermented coconut sap and alcohol in guinea pigs experimentally infected with *Schistosoma japonicum* Katsurada." 80 (3), 335–337.

(840a) In the Philippines there are two species of *Diphyllobothrium*, viz., *D. latum* and *D. erinacei* (which was identified in 1938 by Tubangui as *D. mansoni*). The incidence of the spargana of *D. erinacei* in 338 Philippine frogs was 12·1%. The degree of infection of the individual frogs ranged from 1 to 25. The spargana establish themselves more especially in the heavy muscles and subcutaneous tissues of the hind legs and the abdomen. The bittern, *Ixobrychus cinnamonseus*, and the snake, *Natrix spilogaster*, are two auxiliary intermediate hosts not hitherto recorded for the Islands. Yutuc followed the life-cycle of *D. erinacei* in cyclops and tadpoles, and infected cats and dogs experimentally. Spargana when transferred subcutaneously to cats failed to reach the intestine or to change in form or wander from the site of infection. In a wild rat infected orally with frog spargana three normal branching forms were recovered at autopsy. Oral transfer to cats and dogs was usually successful. In cats the prepatent period averaged 20·5 days (10 to 28 days). The patent period in one cat was 67 days but this cannot be taken as a reliable index as it was exceeded in another cat which died before losing the infection: in one dog it was 233 days. The incidence of the adult worms in dogs was 0·47% and in cats 3·3%. R.T.L.

(840b) Experiments showed that although "tuba" (fermented coconut sap) and alcohol did not prevent infection with *Schistosoma japonicum* the parasite load of infected guinea-pigs was lightened by prolonging the period of administration of "tuba". This beverage may contain some active principle responsible for the partial eradication of the parasite as there was a much lower percentage of parasites recovered than from the controls. R.T.L.

841—Policlinico (Sezione Pratica). Rome.

a. SAITA, A., 1951.—"Echinococco dell'articolazione sacro iliaca." 58 (42), 1322–1327. [English & French summaries pp. 1326–1327.]

b. TATTONI, G., 1951.—"Appendicite da tenia. (Caso clinico.)" 58 (48), 1539–1542. [English & French summaries p. 1541.]

842—Prakticky Lékar. Prague.

*a. FÜRST, O., 1951.—"Léčení taeniasi Karlovarskou solí." 31 (3), 60–61.

843—Praktische Arzt (Der).

*a. WACHSMUTH, R., 1951.—"Moderene Diagnostik der Enterobiasis vermicularis (Oxyuriasis)." 5 (54), 1381–1385.

844—Praktische Tierarzt (Der).

a. SROKA, K. H., 1951.—" Zur Bekämpfung der Trichinenkrankheit." Year 1951, No. 1, pp. 10–12.

(844a) Sroka gives a general account of trichinelliasis in man, dealing with sources of infection, differential diagnosis, treatment (for which he recommends antimony preparations, particularly fouadin) and prognosis. He stresses the over-riding importance of adequate meat inspection (which he claims should be carried out solely by veterinarians, not by meat inspectors however experienced and well trained) in the prevention of human infection. A.E.F.

845—Prensa Médica Argentina.

a. LISTA, G. A., 1951.—" Progresos terapéuticos en medicina interna durante el año 1950. Parasitología." 38 (30), 1892–1893.
b. CORDERO, A., BOSQ, P. & COHAN, S., 1951.—" Dermatosis atipica, polimorfa y crónica relacionada con una parasitosis intestinal." 38 (34), 2160–2163.
c. JOSELEVICH, M., VERNENGO, M. J. & SCIANCA, D. J. C., 1951.—" Hidatidosis hepática asociada con brucelosis. Comunicación de la cavidad quística con los bronquios y las vías biliares." 38 (51), 3348–3352.
d. CARRILLO, R., MATERA, R. F. & INSAUSTI, T., 1951.—" Hidatidosis del sistema nervioso. Experiencia del Instituto de Neurocirugía en los últimos diez años." 38 (52), 3383–3389.

(845b) A case is described in which a severe and widespread dermatosis in a child was associated with infection with *Trichuris trichiura, Endamoeba histolytica* and *E. coli*. There was rapid response to antiparasitic treatment. P.M.B.

846—Presse Médicale.

a. WEST, R. O., 1951.—" La recherche des oxyures chez les enfants de deux institutions lausannoises." 59 (69), 1441.

(846a) West reports finding Enterobius in 77·38% of 109 children examined in Lausanne. S.W.

847—Proceedings of the American Association of Economic Entomologists. North Central States Branch.

*a. DAVIDSON, R. H., 1951.—" Heptachlor for nematode control." [Abstract.] 6th Annual Meeting, pp. 111–112.

848—Proceedings of the American Veterinary Medical Association.

a. TURK, R. D., 1951.—" The control of parasites in farm animals." 87th Annual Meeting (1950), pp. 48–51.
b. DONALDSON, A. W., STEELE, J. H. & SCATTERDAY, J. E., 1951.—" Creeping eruption in the southeastern United States." 87th Annual Meeting (1950), pp. 83–88. [Discussion pp. 88–89.]
c. DIBBEL, C. B., MINNICK, R. F., OWENS, K., KIRKPATRICK, D. Y., JACKSON, R. F. & YARBOROUGH, J. H., 1951.—" Panel on heartworms." 87th Annual Meeting (1950), pp. 234–238. [Discussion p. 238.]
d. TODD, A. C., 1951.—" Intestinal parasitism and poultry production in the South." 87th Annual Meeting (1950), pp. 302–306. [Discussion pp. 306–308.]

(848b) *Ancylostoma braziliense* is a common cause of creeping eruption in the southeastern part of the U.S.A. In Florida *A. braziliense* was found post mortem in 219 out of 495 dogs and in 7 out of 26 cats. Either *A. braziliense* or *A. caninum* or both occurred in 426 of the dogs and in 22 of the cats. Their geographical distribution in the various centres is tabulated. The application of calcium cyanamide or sodium borate to the soil to kill the free-living larvae is suggested. R.T.L.

(848c) This report of an exchange of views on questions on *Dirofilaria immitis* set by various members covers (i) the incidence in hunting and house dogs, (ii) the percentage of infected animals treated, (iii) the importance of hospitalization, (iv) intervals given between treatments, (v) duration of treatment, (vi) percentage of successes, (vii) method of diagnosis, by direct film or after concentration, (viii) drugs used, (ix) selection of patients for treatment, (x) increase or otherwise of the infection in various areas. R.T.L.

(848d) Todd discusses the influence of climate and breed of poultry on susceptibility to parasitism. In the south of the U.S.A. the rates of infection in species and numbers exceed those elsewhere and are related to climatic conditions, breeds and methods of management. Heavy breeds and particularly hybrids tolerate greater levels of infection. R.T.L.

849—Proceedings of Annual Conference for Veterinarians, Ohio State University.

a. JOHNSON, L. E., 1951.—" The surgical removal of *Dirofilaria immitis*." 20th (1951), pp. 52–53.

850—Proceedings of the Bulb Growers Short Course, Western Washington Experiment Station.

*a. COURTNEY, W. D., 1951.—" Summary of control measures for nematodes infecting bulbs." 4, 7–10.

*b. HASTINGS, R. J., 1951.—" The nematode disease of bulbous iris : studies of symptomatology and varietal susceptibility." 4, 37–41.

(850a) This summary is full of precise instructions for control based on an understanding of what happens during and after a planting of nematode infested bulbs of Narcissus, bulbous iris and Croft Easter lilies (*Lilium longiflorum* var. *eximium*) in the field. It deals with (i) methods of soil management to prevent spread by infested plants, (ii) the use of starvation or fumigation methods to destroy nematodes in the soil (this section is set out in great detail) and (iii) the use of hot-water-formalin baths for treatment of stocks (again precise detailed instructions are given). It advocates a pre-soak bath for two hours at 75°F. with a wetter followed by treatment in a bath of one part formaldehyde in 500 parts water at 110°F. for one hour for Croft Easter lilies, three hours for bulbous iris, and four hours for narcissi. [Abstracted from a mimeographed reprint.] J.B.G.

851—Proceedings of the Canadian Phytopathological Society.

a. KOCH, L. W. & BOYCE, H. R., 1951.—" Nematodes, a factor in the re-establishment of peach trees in southwestern Ontario." [Abstract of paper presented at the 18th Annual Meeting of the Canadian Phytopathological Society, Winnipeg, June 25–28, 1951.] No. 19, pp. 16–17.

(851a) The difficulty of re-establishing peach trees in existing orchards in southwestern Ontario is due partly to root lesions caused by the black peach aphis and fungus invasion but largely to damage consistently associated with high nematode populations, particularly of *Pratylenchus* spp., in the smaller rootlets. R.T.L.

852—Proceedings of the Florida State Horticultural Society.

a. CHRISTIE, J. R., 1951.—" The feeding habits of plant parasitic nematodes." 64, 120–122.

(852a) Christie draws attention to the feeding methods of nematodes on plant roots, stating that before sucking in their food they inject into the plant a secretion probably containing a digestive enzyme. The result may be the formation of galls, discoloured or necrotic lesions, prevention of growth of the root tips, or a combination of two or more of these symptoms. Nematodes which feed externally resemble aphids in their feeding habits and constitute a vast and almost unknown field of enormous importance in plant pathology to the agriculture of the southern United States. M.T.F.

853—Proceedings of the Indian Science Congress.

a. LAL, M. B. & GUPTA, P. V., 1951.—" Studies in histopathology : Part I. Effects of the presence of a gymnocephalous cercaria on the tissues of the snail, *Melanoides tuberculatus*." [Abstract.] 38th (1951), Part III, p. 209.

b. LAL, M. B. & BAUGH, S. C., 1951.—" Studies in histopathology : Part II. Effects of the presence of a plagiorchid metacercaria on the tissues of the snail, *Viviparus bengalensis*." [Abstract.] 38th (1951), Part III, p. 210.

c. LAL, M. B. & MATHUR, S. P., 1951.—" Some observations on the morphological characters of *Prosthogonimus* and their bearing on classification." [Abstract.] 38th (1951), Part III, p. 210.

d. DAYAL, J. & GUPTA, S. P., 1951.—" Trematodes of the family Cephalogonimidae from a fresh-water fish, *Heteropneustes fossilis* (Bloch)." [Abstract.] 38th (1951), Part III, p. 210.

e. DAYAL, J. & GUPTA, S. P., 1951.—" New trematode parasites of the family Hemiuridae from fresh-water fishes of U.P." [Abstract.] 38th (1951), Part III, pp. 210–211.

f. DAYAL, J. & GUPTA, S. P., 1951.—" A redescription of the trematode parasite, *Bucephalopsis karvei* Bhalerao 1937." [Abstract.] 38th (1951), Part III, p. 211.

g. KHAMBATA, F. S. & BAL, D. V., 1951.—" Five new species of cestodes from marine fishes of Bombay." [Abstract.] 38th (1951), Part III, p. 211.

h. DAS, E. N., 1951.—" On a new species of the genus *Mediorhynchus* Van Cleave 1916, from India (Acanthocephala : Gigantorhynchidae)." [Abstract.] 38th (1951), Part III, p. 212.

(853a) This abstract states that the paper gave a brief account of the larval stages of a trematode in *Melanoides tuberculatus* and of the histopathological changes caused by the gymnocephalous cercaria. R.T.L.

(853b) This abstract merely states that the paper dealt with the morphology and effects of a plagiorchid metacercaria in the mantle and gill tissues of *Viviparus bengalensis*. R.T.L.

(853c) In this paper, it was suggested that the present diagnosis of *Prosthogonimus cuneatus* might be emended to include several types of variation. The presence of pharyngeal glands in these trematodes is reported for the first time and is correlated with their feeding habits. R.T.L.

(853d) It is stated that a new trematode [not named in this abstract] which occurs in the fresh-water fish *Heteropneustes fossilis* forms a link between *Cephalogonimus* and *Emoleptalea*. R.T.L.

(853e) Three new species of *Ophiocorchis* were obtained from fishes at Lucknow and Saharanpur. *O. indica* n.sp. is characterized by a short oesophagus, the absence of a pharyngeal pouch, larger vesicula seminalis and pars prostatica, and the position of the genital pore which lies in the region of the pharynx. In *O. dasai* n.sp., the genital pore lies much behind the intestinal bifurcation and the uterine coils never extend behind the ootype. *O. faruqis* n.sp. differs from other species in the symmetrical position of the testes, and in the position of the shell gland and ootype between the ovaries and testes; the vitelline glands are lobed, the uterine coils are extended and the genital pore is above the intestinal bifurcation. *O. indica* and *O. dasai* were collected from *Ophicephalus punctatus*, and *Ophiocorchis faruqis* from *Mastacembelus armatus*. R.T.L.

(853f) Specimens of *Bucephalopsis karvei* collected at Lucknow from *Belone cancila* were almost double the size of those described by Bhalerao. The alimentary canal and genital organs are in the middle of the body, not in the anterior half, and the mouth and pharynx lie in front of, and not behind, the posterior testes. These differences are considered to be variations in Bhalerao's species. R.T.L.

(853g) It is stated that in this paper five new species of *Echeneibothrium* are described from elasmobranch fishes of Bombay [but no names or other details are given in this abstract]. R.T.L.

(853h) The genus *Mediorhynchus* is recorded for the first time in India. A description is given of the male and female of a new species [not named] of the genus found in *Passer domesticus*. R.T.L.

854—Proceedings of the Indiana Academy of Science.

a. PERKINS, K. W., 1951.—" Observations on *Acetodextra amiuri*, a digenetic trematode from the ovary of catfish." [Abstract.] Year 1950, **60**, 312–313.

b. WEBSTER, J. D., 1951.—" Systematic notes on the tapeworm family Acoleidae." [Abstract.] Year 1950, **60**, 314.

(854a) *Acetodextra amiuri* occurred in the ovaries of almost all the female catfish caught in the Wabash River. The young worms destroy the eggs of the host, probably feeding on the yolk. The parasite does not lay eggs; they accumulate in the uterus which ruptures, forcibly expelling the eggs, when the worm is taken from the host and placed in tap-water. Perkins is of the opinion that this is of significance in the life-history, eggs being expelled from the adults when the worms are passed out of the host during spawning. S.W.

(854b) [This appears to be an abstract of a paper published in *J. Parasit.*, 1951, **37**, 111–118. For abstract see Helm. Abs., **20**, No. 27g.]

855—Proceedings of the Japan Academy.

a. BANDO, T., ISHIZAKI, T. & KOBAYASHI, Y., 1951.—" Further studies on the locomotion of *Ascaris* in the glass tube, with special reference to the period and the velocity of each movement." **27** (10), 721–725.

(855a) Following on the recent work of Kobayashi & Bando, a statistical study has been made of the relationship between the period and velocity of the movement of *Ascaris lumbricoides* in a U-shaped glass tube filled with a modified Locke-Ringer solution or Bunge's solution at 32°C. R.T.L.

856—Proceedings of the New Jersey Mosquito Extermination Association.

a. VARGAS, L., 1951.—" General remarks on the control of onchocerciasis." 38th Annual Meeting (1951), pp. 47–50.

857—Proceedings and Transactions of the Royal Society of Canada.

a. CAMERON, T. W. M., 1951.—" Parasitology and the Canadian Arctic." [Abstract of paper presented at the Annual Meeting, June 1951.] Ser. 3, **45**, 208.

(857a) Cameron reviews briefly the work of the Institute of Parasitology since 1932 on the parasites of man and domestic animals in the Arctic and sub-Arctic. Trichinella, hydatid and fish tapeworms occur in man and animals, Enterobius and ascarids in man, and cestodes, trematodes and nematodes in dogs. S.W.

858—Progress Report. Texas Agricultural Experiment Station.

a. TULLIS, E. C., 1951.—" Control of the seed-borne nematode of rice by fumigation with methyl bromide." No. 1413, 4 pp.

(858a) In this progress report Tullis gives some results of experiments in fumigating rice seed with methyl bromide for the destruction of the nematode causing the "white-tip" disease. With the variety Zenith, fumigation with 1·25 lb. methyl bromide per 1,000 cu. ft. for 6 hours killed the nematodes without seriously reducing germination of the seed. This treatment caused some injury to Bluebonnet, but this variety was successfully treated by fumigating first with 1 lb. per 1,000 cu. ft. for 15 hours followed, after several days aeration, by a second treatment with 0·5 lb. per 1,000 cu. ft. for 15 hours. No mention is made of the degree of humidity of the rice seed or the temperature during fumigation. [The nematode is presumably *Aphelenchoides oryzae* Yokoo, 1946.] M.T.F.

859—Radioterapia, Radiobiologia e Fisica Medica. Bologna.

*a. PARONI, F., 1951.—" Anchilostomiasi duodenale. Contributo radiologico." **7**, 423–439.

860—Rassegna di Clinica, Terapia e Scienze Affini.

a. COSSAR, B., 1951.—" A proposito dell'oncocercosi nell'ovest etiopico." 50 (3), 154–159. [French summary p. 159.]

861—Report on the Agricultural Department. Nigeria.

a. ANON., 1951.—" *Chrysops* research." Year 1950–51, p. 84.

(861a) At Benin in south Nigeria, investigations were continued on the biology, life-history and habits of the *Chrysops* vectors of *Loa loa*. The larvae are confined to the top four inches of damp and saturated mud and are not found under any depth of water. *C. silacea* appears in large numbers in August while for *C. dimidiata* the peak is October. *C. silacea* populations fall as the rains increase while those of *C. dimidiata* rise with the rains. Marked *C. silacea* were captured up to three-quarters of a mile from the breeding grounds. Both species occur in the forest canopy but are not as abundant as at ground level. Breeding sites could be destroyed easily by drainage. Canalization of the river between definite banks would be costly but the subsequent upkeep would be small. R.T.L.

862—Report of the Bilharzia Snail Destruction Section, Ministry of Public Health, Egypt.

a. EGYPT, MINISTRY OF PUBLIC HEALTH, 1951.—" Annual report." 7th (1948–49), 46 pp.

(862a) This report opens with a review of the aims, policies and procedures followed during the eight years since the establishment of the Snail Destruction Section of the Ministry of Public Health in Egypt. A perennially irrigated area exceeding 2 million acres, containing over 100,000 kilometres of streams, had to be dealt with. During 1948 the Menoufiya Province was added to the previous area. The surveys are done by the netting of snails at suitable intervals along the streams. Light infestations are detected by placing palm leaves below water level and inspecting them several days later. Streams are cleared of vegetation, except where this is impracticable; they are closed before being treated with copper sulphate, at an initial concentration of 15–20 parts per million in the whole of the water, which is left to act for 2 or 3 days. As the large canals cannot be closed, the margins only are treated and the open stream method is followed and repeated within 2 months. The annual schedule adopted hitherto was a clearance twice yearly followed by sulphate treatment but owing to recurrent infestation this has been replaced by one general survey in the spring followed by continuous treatments and checking of streams known to have been infested. The Ministry of Health has now received legal right to deviate streams or drains, fill in ponds etc., to close or open intakes for treatment and to inspect private lands. The Report gives details of the work done in the various provinces and oases during 1948–1949 and of laboratory findings. Infections were found in 0·07% of 474,865 *Bulinus truncatus* and in 0·18% of 471,170 *Planorbis boissyi* examined. Tests were made of the molluscicides X-19 and X-20, T.P. Esteron 44, Odex and gammexane but were not conclusive. Educational work consisted of exhibits, a textbook in Arabic, training of personnel, and the unit also co-operated in the preparation of scientific and popular films on bilharziasis. R.T.L.

863—Report of the Commonwealth Scientific and Industrial Research Organization, Australia.

a. AUSTRALIA, COMMONWEALTH SCIENTIFIC & INDUSTRIAL RESEARCH ORGANIZATION, 1951.—" V. Animal health and production. VII. Sheep: internal parasites. VIII. Cattle: internal parasites." 3rd (1950–51), pp. 37–41, 51–53, 57–58.

(863a) Helminthological investigations are in progress at (i) the McMaster Animal Health Laboratory, Sydney, where the following subjects are being studied: anthelmintics, the epidemiology of worm infections in sheep, resistance and immunity to worm infections, parasite physiology and toxicology, the mode of action of phenothiazine as an anthelmintic,

the uptake of phosphate by nematode parasites of the small intestine of sheep, and nitrogen catabolism of nematode parasites; at (ii) the Veterinary Parasitology Laboratory, Yeerongpilly, Queensland, where the following are being studied: the epidemiology of parasitic gastro-enteritis of cattle, faecal examination as a measure of helminth infestation in cattle, *Fasciola hepatica*, amphistome flukes of cattle, the methods of administration of anthelmintics to cattle, worm nodules (*Onchocerca gibsoni*) in cattle, and hydatid disease of cattle in Queensland; at (iii) the Regional Pastoral Centre and Laboratory, Armidale, New South Wales, where the internal parasites of sheep are being studied. R.T.L.

864—Report of the Connecticut Pomological Society.

a. JOHANSON, F. D., 1951.—" Nematodes on peaches. Report on survey." (61st Annual Meeting), 54, 115–116.

(864a) Twenty-six of 140 samples of peach roots collected from 44 farms representing nearly 600 acres of peach orchards in the county of Connecticut were processed by the Baermann method for eelworms. Steiner identified the following which had not been discovered in Connecticut previously: *Pratylenchus* sp. on all the samples, *Criconemoides* sp. in six samples, *Hoplolaimus coronatus* and *Ditylenchus* sp. Lownsbery identified *Paratylenchus* sp., *Psilenchus* sp., *Tylenchus* sp. and *Xiphinema americanum*, a first record of its occurrence on peaches in Connecticut. Shread and Brigham have reported finding meadow nematodes on 15 out of 25 farms sampled. It is also reported that preliminary pre-planting site fumigation trials in 1949 and 1950 did not give significant results. R.T.L.

865—Report of the Department of Agriculture. Uganda.

a. WATSON, T. Y., 1951.—" Pests and diseases." Year 1951, p. 13.

(865a) *Heterodera* sp. continues to be a major pest of tobacco in the Bunyoro Province of Uganda. R.T.L.

866—Report. East African Fisheries Research Organization.

a. ANON., 1951.—" Mollusca." Year 1951, pp. 14–18 ; Appendix C, pp. 41–43.
b. ANON., 1951.—" A note on possible methods of biological control of Bilharzia in permanent ponds and dams." Year 1951, Appendix D (3), pp. 46–47.

(866a) Considerable progress has been made with the taxonomy, oecology and parasitology of the aquatic snails in East Africa. A list of species identified by Dr. Mandahl-Barth is given in an appendix. *Biomphalaria s. sudanica* and *B. c. choanomphala* have both been infected with *Schistosoma mansoni* and the life-cycle completed in rats and mice. Attempts to infect also *Bulinus* (*Physopsis*) *globosus ugandae* and *B.* (*Pyrgophysa*) *forskali* were unsuccessful. Graphs show (i) the number of *S. mansoni* cercariae liberated daily from one snail over a period of 22 days, (ii) the number liberated hourly in one day and (iii) the average hourly emission calculated from records covering 16 days. Appendix C is a list of aquatic snails and their distribution. R.T.L.

(866b) In a note on possible methods for the biological control of schistosomes in permanent ponds and dams, attention is drawn to the fact that the fishes *Haplochromis ishmaeli*, *Astatoreochromis alluaudi* and a *Synodontis* sp. are predominantly mollusc feeders; *Tilapia melanopleura* and *T. zillii* eat water-weeds and algae and thus may reduce the food of molluscs, but practically no experimental work on these lines has yet been undertaken. R.T.L.

867—Report. East African Medical Survey.

a. LAURIE, W., 1951.—" Director's report." No. 3 (1951), 76 pp.

(867a) This report contains *inter alia* (i) a statistical analysis by W. Brass of the results of laboratory examinations of the blood, stools and urine carried out on patients of

Mwanza Hospital in 1951, and a discussion of the relationship of haemoglobin to the number of hookworm ova in the stool; (ii) a table of the protozoa and helminths identified in routine stool examinations of apparently healthy persons living on the island of Ukara in Victoria Nyanza. The incidence of different helminths in Ukara was: hookworm 38%, *Schistosoma mansoni* 36%, *Ascaris* 56%, tapeworm 4%, *Trichuris trichiura* 52% and *Strongyloides stercoralis* 15%. The incidence of *S. haematobium* was under 2%. The incidence of filariasis in Ukara is quoted from the Annual Report of the Filariasis Research Project; 35·2% of the age group 21–40 and 36·8% of those over 40 years old showed nocturnal microfilariae. R.T.L.

868—Report. East African Veterinary Research Organization.

a. ANON., 1951.—" Helminthiasis research." Year 1951, pp. 6–11.

(868a) From the work of J. A. Dinnik & N. Dinnik it appears that in East Africa there are at least three species of paramphistomes resembling, but morphologically distinct from, *Paramphistomum cervi*, viz., *P. microbothrium*, *P. sukari* n.sp., of which a detailed description will appear elsewhere, and *Paramphistomum* sp. The life-cycle of *P. microbothrium* was followed experimentally in laboratory-reared *Bulinus syngenes* and that of *P. sukari* in *Biomphalaria pfeifferi*. *Cotylophoron cotylophorum* is very common in the Rift Valley Province. At Nakuru abattoir 38 out of 70 European-owned cattle were found to be infected. In a study of the development and bionomics of *Haemonchus contortus* it was found that larval development was completely arrested throughout January to mid-March owing to the dry conditions, and throughout the cool season from June to August. These unfavourable seasons should provide the most effective periods for anthelmintic treatment and for grazing management to reduce this disease in East Africa. The survival of infective *H. contortus* larvae on grass during June to January is tabulated. R.T.L.

869—Report. Filariasis Research Unit, East Africa.

a. LAURIE, W. ET AL, 1951.—" Director's report." No. 3 (1951), 105 pp.

(869a) This report, based on field surveys in Tanganyika Territory during 1951, contains a variety of observations on the incidence of microfilariae, the clinical evidence of filariasis bancrofti, its effect on ability to work and reproduce, the effects of hetrazan, Protostib and arsenamide in the treatment of symptom-free filariasis bancrofti, of microfilaraemia, of filarial hydrocele and of elephantiasis. Examination of 373 vertebrates on Ukara Island revealed [unidentified] microfilariae in one pigeon, one pied kingfisher and 12 lizards. A table shows that the number of microfilariae taken up by individual *Culex fatigans* when presented simultaneously to an infected person ranged from 0–76. The latter part of the report deals with onchocerciasis in East Africa. In Tanganyika it has not yet been located by the Unit. In Kenya and Uganda it is considered to be an important medical problem although limited in its distribution. Skin test results were less dependable than serological tests. A description by McKelvie of the ocular lesions and by McMahon of the vector *Simulium neavei* and its elimination are contributed from the Kenya Medical Department. R.T.L.

870—Reports on the Progress of Applied Chemistry.

a. PETERS, B. G., 1951.—" Control of plant nematodes." 36, 701–704.

(870a) In the section on control of plant nematodes Peters summarizes 20 papers on the use of ethylene dibromide as a nematicide and three papers dealing with new materials and methods for the control of soil-inhabiting nematodes. M.T.F.

871—Report of the Rothamsted Experimental Station.

a. GOODEY, T., 1951.—" Nematology Department." Year 1951, pp. 93–100.

(871a) During the year 1951 the staff of the Nematology Department at Rothamsted Experimental Station continued work on problems connected with plant infestation by eelworms belonging to the Tylenchidae and Aphelenchidae, on soil nematodes generally and on the root-infesting Heteroderidae. The oat variety S.225 showed good resistance to *Ditylenchus dipsaci*. The enzyme cellulase occurred in greater amount in infested than in healthy oat seedlings of the same age. Cellulase also occurred in the nematodes. The oat variety S.147 when grown on a teasel plot was attacked by *D. dipsaci* and developed "tulip root" symptoms. *D. dipsaci* was found on *Plantago lanceolata* and *Hypochoeris radicata* growing on waste land. The so-called giant race of *D. dipsaci* was seed-borne by *Vicia faba*. Experiments to transfer *D. destructor* from compost of diseased mushrooms to potatoes and mint failed. Observations were continued on *Hoplolaimus uniformis* and *Trichodorus* sp. associated with the roots of *Picea sitchensis*. A new species was discovered associated with a root disease of the oil palm in the Cameroons: it probably only causes lesions for the entry of other pathogens. *Aphelenchoides blastophthorus* occurred in *Scabiosa caucasica* in 13 nurseries in Britain. A large series of pot tests with various nematicides were continued during the year. In studies on the vertical migration of *Heterodera rostochiensis* larvae in the soil 80% of the new cysts remained within two inches of the original inoculum and about 1% of the larvae migrated 6 inches upwards or downwards. That soil type largely controls the efficacy of D-D mixture is shown by the different results obtained on silt soil and black fen soil. On the former the increased yield paid for the treatment. On the latter there was a significant increase in eelworm population and no economic increase in yield of potatoes. Although the larvae of *H. rostochiensis* penetrate the roots of *Solanum nigrum* they failed to develop after about 10 days. A number of other experiments begun but not yet completed are briefly outlined. R.T.L.

872—Research Bulletin of the East Panjab University, Hoshiarpur.

a. GUPTA, N. K., 1951.—" On the morphology of *Paramphistomum bathycotyle* Fischoeder (1901) a common amphistome in the bile ducts of Indian bovines." No. 15 (Zoology), pp. 33–38.

(872a) Gupta describes and figures the morphology of *Paramphistomum bathycotyle* and compares the measurements obtained with those given by Näsmark. Although convinced that *P. bathycotyle* is a valid species and not a synonym of *P. cervi* the author does not agree with Näsmark that *Gigantocotyle* can be regarded as a distinct genus and is of the opinion that his system of classification is impracticable. S.W.

873—Research Bulletin. Obihiro Zootechnical University.

*a. SAKAI, M. & KONISHI, T., 1951.—[Application tests of phenothiazine for the internal parasites of horses.] 1, 10–16. [In Japanese : English summary.]

*b. NAKAMURA, Y., 1951.—[On the parasite eggs found in canine sputum.] 1, 27–35. [In Japanese : English summary.]

874—Resenha Clínico-Científica.

a. PEREIRA, O. A., 1951.—" A intradermorreação para o diagnóstico da equistossomose mansoni." 20 (10), 331–338.

(874a) In intradermal tests with adult *Schistosoma mansoni* antigen on 150 known or suspected cases of schistosomiasis, Pereira obtained positive results in 95 cases; nine were doubtful and 46 were negative. Five of the cases with continued negative reactions were, however, shown to be infected, one by faecal examination and four by rectal biopsy. In three out of five cases given oral antimony treatment there was a tendency for more immature and mature eggs to be found by rectal biopsy some months after treatment than previously. In known but untreated cases 88·6% were positive by intradermal test, 96·8% by rectal

biopsy and 28·5% by faecal examination. From a study of various authors' work, Pereira notes that more positive results are obtained with adult *S. mansoni* antigen than with antigen prepared from cercariae or from the hepato-pancreas of infected snails. P.M.B.

875—Réveil Agricole.

*a. ROSELLA, E., 1951.—" Contre l'anguillule des oeillets et des tomates on peut désinfecter la terre." 60, 70–71.
*b. MOUTTE, P., 1951.—" Les vers intestinaux des chiens." 60, 376–377.

876—Review of Gastroenterology.

a. BANCROFT, F. W., 1951.—" Giant echinococcus cyst of the spleen. Case report." 18 (12), 882–887.

877—Revista Agronómica. Porto Alegre.

*a. CORRÊA, O. & GLOSS, R., 1951.—[The use of sodium chlorate in swine ascariasis.] 15, 74–80. [In Portuguese.]

878—Revista da Associação Médica de Minas Gerais.

a. ALMEIDA, L. V. DE, 1951.—" Dados preliminares de inquérito sôbre esquistosomiasis mansoni e outras parasitoses em Pedra Azul, Minas Gerais." 2 (2), 257–260. [English summary p. 260.]

(878a) In an examination of the faeces of 1,789 individuals representing 30·6% of the population in Pedra Azul in Minas Geraes, Brazil, *Schistosoma mansoni* eggs were seen in 744 (41·6%). A second examination of 404 of the negative cases gave 47 additional positive results. R.T.L.

879—Revista Brasileira de Malariologia.

a. SZUMLEWICZ, A. P. & KEMP, H., 1951.—" Moluscocidas promissores contra um caramujo planorbídeo brasileiro." 3 (3), 389–406. [Also in English pp. 407–422.]

(879a) Concentrations of 4 parts per million of eight organic compounds, viz., the sodium salts of pentachlorophenol, trichlorophenol, monochlorophenol and dichlorophenol, and dinitro-*o*-cresol, phenyl-mercury-acetate, benzene hexachloride and its gamma and delta isomers were lethal to *Australorbis immunis* in laboratory tests. Sodium salts of pentachlorophenol and phenyl-mercury-acetate were lethal at 10 p.p.m. after six hours contact and are considered to be superior to copper sulphate. These compounds, and dinitro-*o*-cresol killed all snails at 1 p.p.m. All the compounds were toxic to the fish *Phalloptychus januarios.* R.T.L.

880—Revista Brasileira de Medicina.

a. BARANSKI, M. C., 1951.—" Tratamento da teníase pela atebrina." 8 (12), 872–873.

(880a) Of 20 cases of taeniasis treated with atebrin, the scolex was recovered in 17 after a single treatment and in the remaining three after a second dose 15 to 30 days later. Dosage varied from 4 tablets of 0·1 gm. for children aged 2–4 years, to 8 or 9 tablets for those of 17 years and over, one tablet to be taken every 5 minutes with 6 gm. of bicarbonate of soda and followed three or four hours later by a purgative. P.M.B.

881—Revista del Café. Puerto Rico.

*a. COLÓN, E. D., 1951.—" La fenotiazina." 7 (5), 30.

882—Revista Cafetera de Colombia.

*a. MACHADO, A., 1951.—" Los 'nemátodos' y la decadencia de muchos cafetales y cultivos." 10, 3572–3576.

883—Revista Chilena de Higiene y Medicina Preventiva.

a. NEGHME, A. & BERTÍN, V., 1951.—" *Diphyllobothrium latum* en Chile. IV. Estado actual de las investigaciones epidemiológicas." 13 (1/2), 8–11.
b. NEGHME R., A., PILOTTI AVELLO, M. & SILVA C., R., 1951.—" Contribución al estudio de la epidemiología de la hidatidosis en Chile." 13 (3), 33–49.

(883a) Neghme & Bertín conclude that infection with *Diphyllobothrium latum* occurs in *Salmo irideus* and in a few *S. fario* in practically all the rivers and lakes in the vicinity of Lake Colico in southern Chile. Of 370 *Salmo* from 11 lakes and rivers, 30·8% were infected. The present number of human cases in this part of Chile totals 21. Seven out of 38 dogs and two out of three cats were naturally infected. P.M.B.

(883b) Between 1945 and 1950 the rate of hydatid infection at 127 slaughterhouses in Chile ranged from 0·6% to 86·3% in cattle, from 1% to 84% in pigs and from 0·2% to 57% in sheep. The highest incidence was always in the south. Human infection varied greatly according to area, reaching a maximum of 7·53 per 100,000 of the population (126 cases) in the south in 1950. There was a general increase in incidence throughout Chile, with a total of 1,595 cases during 1950. In 49·3% of these the lungs were affected. P.M.B.

884—Revista Chilena de Historia Natural.

a. BOLELLI, R. R., 1951.—" Ecto y endo parásitos de las gallinas." 51–53, 3–56.

885—Revista Clínica Española.

a. CUERVO GARCÍA, C., 1951.—" Ensayos de un tratamiento médico del quiste hidatídico." 41 (5), 320–329. [English, French & German summaries pp. 328–329.]
b. BRAVO MATEOS, C., 1951.—" Ulcus sine ulcus por tricocefalosis." 41 (6), 414–416.
c. CALVO MELENDRO, J., 1951.—"Quistes hidatídicos de corazón." 42 (6), 397–406. [English, French & German summaries p. 406.]
d. ZAMANILLO, G. & CAMINO, G., 1951.—" La atebrina en el tratamiento de la teniasis." 43 (4), 259–261.

(885a) In 12 cases of hydatid cyst, clinical symptoms and radiological signs disappeared or were greatly reduced after injections of oil solutions of thymol in iodised oil. There were no toxic effects. P.M.B.

(885d) Atebrin apparently cured three cases of taeniasis, two of which had previously been treated unsuccessfully with other drugs. P.M.B.

886—Revista del Colegio Médico de Guatemala.

a. BURCH, T. A., 1951.—" Prurito producido por el hetrazán como una prueba de diagnóstico para la oncocercosis." 2 (1), 53–57.
b. GIBSON, C. L. & BURCH, T. A., 1951.—" Estudios preliminares sobre la infectividad de microfilarias de *Onchocerca volvulus* que reaparecen después del tratamiento con hetrazán." 2 (3), 63–66. [English & French summaries p. 66.]

(886b) Although hetrazan causes the microfilariae of *Onchocerca volvulus* to disappear from the skin, the microfilariae may reappear a few months later. By the ninth month after treatment, infected persons can give rise to apparently normal infections in simuliids. It is inferred that unless treatment is repeated every few months, it is of no value as a prophylactic measure. R.T.L.

887—Revista Cubana de Gastroenterología.

*a. KOURÍ, P. & VALDÉS DÍAZ, R., 1951.—" Concepto actual sobre el papel patógeno del *Tricocéfalo dispar* (*Trichuris trichiura*). Sintomatología gastro-intestinal, particularmente ceco-apendicular y recto-sigmoideana." 1 (4), 299–321.

888—Revista Cubana de Pediatría.

a. BASNUEVO, J. G., COWLEY CHÁVEZ, O., SOTOLONGO, F., BLANCO RABASSA, E. & ACHKAR, R., 1951.—"Un nuevo tratamiento de la tricocefaliasis." 23 (8), 499–504.

(888a) [This paper is reprinted from *Rev. Kuba Med. trop.*, 1951, 7 (5/6), 57–59. For abstract see Helm. Abs., 20, No. 554a.]

889—Revista Española de las Enfermedades del Aparato Digestivo y de la Nutrición.

a. BOSCH MILLARES, J. & BOSCH HERNANDEZ, J., 1951.—"La ascaridiosis intestinal en el adulto." 10 (5), 452–474.

890—Revista da Faculdade de Medicina Veterinária. São Paulo.

a. RIBEIRO, P. DE ASSIS, 1951.—"Causas de rejeição de suínos abatidos no Brasil Central nos anos de 1936 a 1949." 4 (3), 421–468. [English summary pp. 464–466.]

(890a) In federally controlled slaughterhouses in central Brazil, 4,463,848 pigs were inspected during the 14 years 1936–1949. The principal causes of rejection were hydatid, stephanuriasis, *Cysticercus cellulosae*, *C. tenuicollis*, tuberculosis and contusions. The average incidence of cysticerciasis was 6·362%. Of a total of 3,406,835 kidneys and 1,972,907 livers condemned, 42·124% and 21·264% respectively were rejected on account of *Stephanurus dentatus* infection; hydatid cysts were found in 9·668% of the livers. Only 149 lungs and 72 kidneys were rejected on the grounds of hydatid infection. That the pigs came from different regions and often from outside the central area may account for annual variations in the incidence of the various parasitic infections. Until 1940 the incidence of *C. tenuicollis* in livers remained at about 1%, but in 1942 increased to 5·542% and in 1949 fell to 2·362%. Hydatid infection of the liver which in 1936 had reached 11·49%, decreased in 1941 to 8·79% and in 1942 increased to 12·97%; it remained high (11·13%) until 1945 but by 1949 had decreased to 6·5%. R.T.L.

891—Revista de la Facultad de Ciencias Exactas, Físicas y Naturales. Córdoba.

*a. SALCES, F., 1951.—"Quistes hidáticos en cabras." 14, 175–183.

892—Revista de la Facultad de Ciencias Médicas de la Universidad Nacional de Córdoba.

*a. GENTILE, J. M., 1951.—"Incidencia del *Enterobius vermicularis* en niños Córdoba." 9 (2), 293–304.

893—Revista de la Facultad de Medicina. Bogotá.

a. ARTEAGA CAMERO, C., 1951.—"Uso del Aralen en el tratamiento de la teniasis." 20 (2), 74–79.

(893a) Seven adults infected with *Taenia saginata* were successfully treated when chloroquine diphosphate tablets called "Aralen" were given at the rate of one tablet (0·25 gm.) per 10 kg. body-weight, followed after three or four hours by castor oil. R.T.L.

894—Revista de la Facultad de Medicina Veterinaria. Lima.

a. RAKOWER C., M. & CASTILLO G., A., 1951.—"Contribución al estudio del parasitismo intestinal en caninos y su tratamiento." 6 (1/4), 220–222.

b. RAKOWER C., M. & CASTILLO G., A., 1951.—"El antimonio III en el tratamiento de la filariosis en el perro." 6 (1/4), 223–226.

(894a) The helminth incidence in 900 dogs in Lima was: *Toxocara canis* 29%, *Toxascaris leonina* 3·22%, *Dipylidium caninum* 14·66%, *Taenia pisiformis* 0·22%, *Ancylostoma caninum* 7·11% and *Trichuris vulpis* 4%. Treatment with butyl chloride

cured 95% of those with ascaris, 60·86% of those with *T. vulpis* and 76·62% of those with hookworm; arecoline hydrobromide and Anthelin (an organic antimony compound) cured 59·78% and 84·21% respectively of those with tapeworms. P.M.B.

(894b) Treatment with Repodral (a compound containing 13·6% of antimony), resulted in the disappearance of clinical symptoms and of microfilariae from the blood in two cases of canine filariasis. P.M.B.

895—Revista del Instituto Nacional de Investigación de las Ciencias Naturales y Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires. Ciencias Zoológicas.

a. SZIDAT, L. & NANI, A., 1951.—"Diplostomiasis cerebralis del pejerrey. Una grave epizootia que afecta a la economía nacional producida por larvas de trematodes que destruyen el cerebro de los pejerreyes." 1 (8), 323–384. [German summary pp. 378–381.]

b. SZIDAT, L. & NANI, A., 1951.—"Las remoras del Atlántico Austral con un estudio de su nutrición natural y de sus parásitos (Pisc. Echeneidae)." 2 (6), 385–417.

(895a) More than half the *Basilichthys microlepidotus* caught in Lake Pellegrini and the river Limay were rendered unfit for sale by enormous numbers of the larvae, *Diplostomulum mordax* n.sp. and *Tylodelphys destructor* n.sp., which attack the brain, causing very poor growth. Other fish were not affected. [See also Helm. Abs. **21**, No. 500a.] The larva *D. mordax* is distinguished by the absence of a ventral sucker, in place of which there is a group of strongly coloured nuclei in a fold of the integument. *Austrodiplostomum mordax* n.g., n.sp. from the intestine of *Phalacrocorax olivaceus olivaceus* is identical with *D. mordax* in the almost complete absence of a ventral sucker and in the form of the reproductive organs and is considered to be its adult form; it resembles *Ornithodiplostomum ptychocheilus* but has well developed grooves on either side of the oral sucker. The larva *Tylodelphys destructor*, which was found only in the brain of *B. microlepidotus*, is similar to *T. rhachiaea* from the brain and medulla of frogs and to *T. scheuringi* from the eyes of North American river fish. Its first intermediate host is *Planorbis peregrinus* and the cercaria is similar to that of *T. excavata*. The pathology of the two new larvae is discussed at great length. Other helminths present in *B. microlepidotus* were (i) *Steganoderma macrophallus* n.sp. which occupies a position between other species of the genus and *Lecithostaphylus*, (ii) a new cestode temporarily named *Ichthyotaenia macdonaghi* n.sp., for which it may be necessary to form a new genus on account of the peculiar form of the eggs and (iii) *Contracaecum* sp. There are 24 plates. P.M.B.

(895b) *Sterrhurus monticellii* is recorded from the stomach of *Echeneis naucrates* near the Argentine coast. P.M.B.

896—Revista del Instituto de Salubridad y Enfermedades Tropicales. Mexico.

a. MAZZOTTI, L., 1951.—"Conservación de huevos de *Enterobius vermicularis* en las preparaciones hechas por el método de Graham." 12 (1/4), 27–28. [English summary p. 28.]

(896a) One of the advantages of Graham's cellulose tape method for the diagnosis of *Enterobius vermicularis* is that the ova will remain in an identifiable condition on the microscope slide for at least eight years. P.M.B.

897—Revista Médica de Chile.

a. NEGHME, A. & BERTÍN, V., 1951.—"Estado actual de las investigaciones sobre *Diphyllobothrium latum* en Chile." 79 (10), 637–640. [Discussion p. 640.]

(897a) *Diphyllobothrium latum* infection has now been recorded in a total of 22 persons in the Lake Colico area of Chile. The incidence in 560 *Salmo irideus* and *S. fario* examined was 26·9%. The low incidence in man compared with that in *Salmo* is attributed to the fact that 95% of the plerocercoids occur in the visceral cavity and only 5% in the musculature. P.M.B.

898—Revista Médica Peruana.

a. GONZÁLEZ R., D., 1951.—"Helmintíasis intestinal." 22 (268), 321–336.

(898a) The incidence of helminths among schoolchildren at Iquitos in Peru is provisionally estimated as hookworm 94·28%, Ascaris 92·16%, Trichuris 95·16% and Strongyloides 18·4%. P.M.B.

899—Revista de Medicina Veterinária. Lisbon.

a. ALVES DA CRUZ, A., 1951.—"A distomatose hepática do coelho doméstico pela *Fasciola hepática* Lineu, 1758." 46 (337), 161–163. [French summary p. 163.]

(899a) A case of fascioliasis hepatica in a rabbit is reported from Portugal. Reference is made to three other cases found in examinations of 852 rabbits during the years 1938–1950. P.M.B.

900—Revista de Medicina Veterinaria y Parasitología. Caracas.

a. GALLO, P. & VOGELSANG, E. G., 1951.—"Nosografía veterinaria venezolana." 10 (1/4), 3–46.
b. VOGELSANG, E. G. & GONZÁLEZ, C. L., 1951.—"La quimioterapia en la filariosis humana por *Wuchereria bancrofti*." 10 (1/4), 53–59.
c. VOGELSANG, E. G. & GONZÁLEZ, C. L., 1951.—"La acción de substancias quimioterápicas sobre *Loa loa* y *Onchocerca volvulus*." 10 (1/4), 61–64.
d. VOGELSANG, E. G., 1951.—"Nematodes parásitos de los equinos de Venezuela." 10 (1/4), 119–124.

(900a) In this survey of diseases of domestic and wild animals in Venezuela, Gallo & Vogelsang include a list of helminth species and the hosts from which they have been recorded. There is a bibliography of 165 titles. P.M.B.

901—Revista de Paludismo y Medicina Tropical. Mexico.

a. GUZMÁN DUARTE, S., 1951.—"El programa intensivo de la campaña nacional contra la oncocercosis. (Informe preliminar de sus resultados)." 3 (3), 103–114. [Portuguese summary p. 114.]
b. ČUKIĆR CHERVIN, A., 1951.—"Investigaciones del poder antihelmíntico de las semillas de tres especies de *Cucurbita*." 3 (4), 165–182. [Portuguese summary p. 179.]

(901a) During the first three months of an intensive campaign against onchocerciasis in 227 localities of Chiapas and Oaxaca, Mexico, 43,938 out of the population of 56,310 were examined; of these 10,308 were infected. The incidence varied from 42·6% in the sector of Coordinados to 5% in Ejidales and in the northern part of the Campaña sector around Pantelhó. A total of 21,983 persons was treated with hetrazan and 6,175 received surgical treatment. Nodules were present in 54·8%, 97%, 59·6% and 98·9% of infected persons in each of the four sectors, southern Campaña, northern Campaña, Coordinados and Ejidales. P.M.B.

(901b) Dogs treated with decorticated and powdered seeds of *Cucurbita argyrosperma*, *C. maxima* and *C. pepo* passed an average of 60%–68% of *Dipylidium caninum* and *Ancylostoma caninum* compared with 15% in controls treated only with a purgative. The globulin of *C. argyrosperma* showed similar action in doses of 1 gm. and 1·25 gm. per kg. body-weight. Treatment with various extracts of the seeds was less satisfactory. There was no effect on *Toxocara canis*. No lesions attributable to the treatment were observed. Tables indicate the length of time of survival of *Ascaris lumbricoides* var. *suum*, *Moniezia expansa*, *Thysanosoma actinioides* and *Macracanthorhynchus hirudinaceus* in *in vitro* tests with aqueous extract of *C. argyrosperma* and with the globulin. No changes were observed in treated specimens compared with controls. P.M.B.

902—Revista de la Policlínica Caracas.

a. OTTOLINA, C., 1951.—"Valor absoluto de la biopsia rectoscópica por transparencia estudiado en 138 rectos humanos enteros preparados con una técnica adecuada." 19 (117), 79–151. [English, French & German summaries pp. 148–150.]

(902a) By studying the whole of the rectum, when cleared and mounted in Canada Balsam, Ottolina has established the absolute value of rectal biopsy in determining the presence, activity and intensity of chronic schistosomiasis mansoni infections by comparing the microscopical changes in the walls of the whole of the rectum with those found at the middle rectal valve where the biopsy fragment is taken. R.T.L.

903—Revista de Sanidad y Asistencia Social.

a. MAYER, M. & PIFANO C., F., 1951.—"Modalidades de la infección producida por *Schistosoma mansoni* en animales de laboratorio infectados con cercarias provenientes de un solo caracol." 16 (5/6), 445–459.

b. MAYER, M. & PIFANO C., F., 1951.—"La cercaria-reacción de Vogel-Minning en la schistosomiasis mansoni." 16 (5/6), 461–474.

c. PARILLI, J. P., 1951.—"Corazón pulmonar bilharziano. Primer caso descrito en Venezuela." 16 (5/6), 541–559. [English summary p. 558.]

(903a) One hundred and twenty mice were infected with *Schistosoma mansoni* cercariae from 42 naturally infected *Australorbis glabratus* collected near Caracas, each mouse being infected from a single snail. Female schistosomes developed in 54 mice, males in 23, mixed infections in 28; in 15 none developed. The females in unisexual infections did not reach maturity. In a second experiment in which 15 snails and 84 mice were used, successive lots of two mice (or a single mouse in a few cases) were infected from the same snail with a few days' interval between the infection of each lot. Cercariae from five of the snails produced males only, those from four produced females only and from three mixed infections resulted. Of 16 mice infected from the other three snails mixed infections developed in eight, females only in one and males only in seven, proving that an individual snail can harbour cercariae potentially capable of producing either a single sex or male and female simultaneously. P.M.B.

(903b) The "cercaria membrane reaction" described by Vogel & Minning [for abstract see Helm. Abs., 18, No. 516b] was positive in 43 out of 54 known cases of schistosomiasis mansoni, negative in 9 and doubtful in 2. It was always negative in healthy individuals and in those with parasitic infections other than schistosomiasis. It is not known how long after infection the cercaria reaction becomes positive but in two cases known to have become infected 8 to 10 weeks previously it was strongly positive. Sufficient evidence regarding the reaction in treated cases is not yet available, but of five cases with positive reactions three were negative and two positive six months after treatment with fouadin. Of two cases treated with miracil one gave a negative and the other a doubtful reaction four weeks later. Positive reactions occurred in 28 out of 37 experimentally infected guinea-pigs. Reactions were negative in those with immature schistosomes examined 19 to 42 days after infection but became positive after six weeks. Of 13 mice with male schistosome infections only, positive reactions occurred in seven with mature worms (examined 50 to 89 days after infection) and negative reactions in four with immature worms (60–66 days after infection); they were doubtful in two with 40 and 47 immature specimens respectively. In ten with immature female infections the results were all negative. The cercaria reaction was thus positive only in cases with mature worms. The fact that it was positive in unisexual male infections confirms that there is no connection between the cercaria reaction and the presence of ova or their secretion products. Results were negative when using unidentified furcocercous cercariae; a film easily distinguishable from the true positive reaction was observed around these cercariae: this appears to be identical with the precipitate described by Vogel & Minning. P.M.B.

(903c) Parilli describes the first case of bilharzial cor pulmonale recorded in Venezuela. The patient was an 11-year-old boy with hepato-splenic schistosomiasis mansoni and with radiological evidence of pulmonary infection. Treatment with anthiomaline led to a diminution in the size of the heart and to clinical improvement. Attention is drawn to the possibility of this infection in the diagnosis of right-sided cardiopathies with pulmonary artery dilation and to its possible association with myocarditis of the same aetiology. P.M.B.

904—Revista de Sanidad e Higiene Pública. Madrid.

a. SAIZ MORENO, L., 1951.—" La hidatidosis como problema sanitario." **25** (9), 499–529.

905—Revista de la Sociedad Argentina de Biología.

a. BACIGALUPO, J., 1951.—" Parasitosis experimental de rata blanca con cepa humana de *Hymenolepis diminuta*." **27** (3/4), 138–140. [English summary p. 140.]
b. BACIGALUPO, J. & BACIGALUPO, A. D'A., 1951.—" Huevos anómalos de *Hymenolepis diminuta*." **27** (7/8), 257–259. [English summary p. 259.]

(905a) [A summary of this paper appears in *C. R. Soc. Biol. Paris*, 1951, **145**, 1729. For abstract see Helm. Abs., **20**, No. 402f.]

(905b) [This is a more detailed and illustrated account of a paper which appears in *C.R. Soc. Biol. Paris*, 1952, **146**, 589. For abstract see Helm. Abs., **21**, No. 208b.]

906—Revista de Tuberculosis del Uruguay.

a. ARMAND UGÓN, V., PIAGGIO BLANCO, R. A., MEZZERA, J., AGUIRRE, C. V. & PURCALLAS, J., 1951.—" Quiste hidático del ventrículo izquierdo operado." **19** (2), 57–66.

907—Revue de l'Agriculture. Brussels.

a. LATTEUR, J. P., 1951.—" La distomatose, une affection à ne pas méconnaître." **4** (12), 1583–1599. [English & German summaries p. 1599.]

(907a) [This paper also appears in Dutch in *Landbouwtijdschrift*, 1951, **4** (12), 1583–1599. For abstract see Helm. Abs., **20**, No. 474a.]

908—Revue de la Faculté de Médecine. Teheran.

*a. ANSARI, N., 1951.—" Parasites intestinaux de la région de Téhéran." **8** (5), 19–20.

909—Revue Médicale du Moyen-Orient.

*a. STEPHAN, E., 1951.—" Eosinophilie sanguine élevée avec manifestations pleuro-pulmonaires. Etude de trois cas." **8** (3), 344–351.
*b. BROUNST, G., MAKLOUF, A. & NAFFAH, 1951.—" Un cas de filariose avec infestation familiale observé au Liban." **8** (3), 355–357.

910—Revue Neurologique.

a. GARCIN, R., BERTRAND, I., ESCALIER, A., GUILLAUME, J. & KIPFER, M., 1951.—" Kyste hydatique épidural lombo-sacré." **85** (2), 147–150.

911—Revue de Pathologie Comparée et d'Hygiène Générale.

a. VERGE, J., 1951.—" La trichinose humaine dans ses rapports avec les trichinoses animales." **51** (629), 361–363.

(911a) Verge reviews some of the leading reports of the incidence of trichinosis in man, pig, dog, cat, fox and bear in the various countries of the world since 1939. Apart from the three sporadic cases reported by Joyeux, no outbreaks have been reported in France since 1878. It has recently been stated that 53 cases of trichinosis in pigs at the abattoirs in Paris were noted by the occupation authorities. R.T.L.

912—Revue Romande d'Agriculture, de Viticulture et d'Arboriculture.

a. SAVARY, A., 1951.—"Les anguillules nuisibles aux plantes de grande culture." **7** (12), 94–96.

913—Revue Suisse de Zoologie.

a. JOYEUX, C. & BAER, J. G., 1951.—"Le genre *Gyrocotyle* Diesing, 1850 (Cestodaria)." **58** (2), 371–381.

b. DUBOIS, G., 1951.—"Nouvelle clé de détermination des groupes systématiques et des genres de *Strigeida* Poche (Trematoda)." **58** (4), 639–691.

(913a) Joyeux & Baer review the literature on the Cestodaria and redescribe and illustrate *Gyrocotyle rugosa* from a single specimen obtained from *Callorhynchus callorhynchus*. They consider that the differences existing between *G. rugosa*, and *G. urna* and *G. fimbriata* are of generic significance and therefore that *Amphiptyches* Grube & Wagener, 1852 is a valid genus. The Gyrocotyloidea contains three genera, *Gyrocotyle* Diesing, 1850 (type species *G. rugosa*), *Amphiptyches* Grube & Wagener, 1852 (type species *A. urna*) containing also *A. fimbriata* (Watson, 1911), and *Gyrocotyloides* Fuhrmann, 1931 (type species *G. nybelini*). Drawings of the three genera illustrate the differences between them. S.W.

(913b) In this review of the Strigeida, Dubois divides the metacercariae into four sub-groups: *vivax* Sewell, 1922 (emend.), *tetis* Sewell, 1922 (emend.), *tauiana* Szidat, 1933 and a new sub-group *novena*. The genus *Prohemistomum* is redefined and a number of new combinations made. A new genus *Mesostephanoides* n.g. is proposed for *Mesostephanus burmanicus* Chatterji, 1940. There is a long and detailed key for the differentiation of all the groups and a comprehensive bibliography. S.W.

914—Riforma Medica.

a. CENTRA, N., 1951.—"Su di un raro caso di triplice cisti da echinococco del polmone trattato e guarito col metodo Condorelli." **65** (49), 1335–1338.

915—Riistatieteellisiä Julkaisuja. Helsinki.

a. LAMPIO, T., 1951 —"On the significance of predators in the control and dispersal of the diseases of game." **6**, 3–20.

b. LAMPIO, T., 1951.—"On the occurrence of the bladder-worm (*Cysticercus pisiformis*) in Finland." **6**, 32–39.

c. LAMPIO, T., 1951.—"Only mild outbreaks of disease in the game areas during the year 1948/49." **6**, 39–44.

d. LAMPIO, T., 1951.—"Winter 1949/50 a general year of disease in the game areas in Finland." **6**, 44–47.

e. LAHERMAA, G., 1951.—"Investigations on the lung-worm disease of the hare." **6**. 47–56.

(915a) From an investigation into the relation of predatory animals to diseases of game in Finland, Lampio concludes that although they have little or no significance as "health police" their extermination is not justifiable. There is no correlation between the area incidence of the fox and that of lungworm and cysticercus in the hare. *Taenia pisiformis* is rare in foxes in Finland and the embryos of *Protostrongylus commutatus* are destroyed in foxes' alimentary canals. R.T.L.

(915b) Lampio summarizes reports of the incidence of *Cysticercus pisiformis* in hares in Finland since it was first observed there in 1879. Although this incidence has a clear periodicity, it is without a definite rhythm. Until the close of 1930 these bladderworms were found almost wholly in the snow hare, *Lepus timidus*, but after that date it has also become fairly common in the field hare, *L. europaeus*. Distribution maps show that only isolated cases have been found in the northern half of the country and relatively few in eastern Finland. The concentration of infection to the southern and south-western regions is correlated with the density of the human and dog populations there. R.T.L.

(915c) Lampio presents maps showing the distribution in Finland of the lungworm epizootic which prevailed in hares during the shooting seasons of 1946–1949. Its injurious influence was comparatively slight and resulted in a comparatively small decrease in the hare population of the country. In 1948–1949, there was a slight, but relatively harmless, increase in the incidence of *Cysticercus pisiformis*. *Fasciola hepatica*, very common on an island near Hanko, *Dicrocoelium dendriticum* and *Cittotaenia pectinata* were also collected. *Muellerius* sp. was observed in 18 out of 80 lung samples from moose from different parts of the country. *Toxocara*, *Uncinaria*, *Eucoleus* and *Capillaria* were frequently found in foxes. R.T.L.

(915d) During 1949–1950 *Protostrongylus commutatus* continued as an epizootic in hares in Finland for the fourth year. *Muellerius* sp. continued to appear in random samples of moose and had caused patho-anatomical changes in the lungs. R.T.L.

(915e) A severe outbreak of lungworm disease appeared in the snow hares of north Karelia in 1947, reached its intensity within two months, continued up to 1950 and affected the entire hare population. The changes in the lungs were slight or moderate with slight inflammatory phenomena : the mortality was low. R.T.L.

916—Rivista Italiana d'Igiene.

a. VASSALLO, M., 1951.—" Sulla frequenza dell'ossiurasi nei bambini." 11 (7/8), 288–294. [English summary p. 294.]

917—Rivista di Medicina Veterinaria e Zootecnia. Parma.

a. CASAROSA, L., 1951.—" La bronchite verminosa dei suini. Ricerche sul comportamento del muscolare liscio endopolmonare." 3 (4), 165–184. [English & French summaries pp. 182–183.]

(917a) In pigs with sub-chronic and chronic verminous bronchitis there is hypertrophy and hyperplasia of the smooth muscle fibres of the inter- and extra-lobular bronchioles, alveolar capillaries and interalveolar septa. The tunica muscularis of the medium-sized bronchi, where the parasites are usually located, is contantly and uniformly atrophied. R.T.L.

918—Rocky Mountain Medical Journal.

a. CARLQUIST, J. H. & DOWELL, R. J., 1951.—" Echinococcus disease. Report of four cases contracted in the United States." 48 (10), 773–776.

919—Sad i Ogorod. Moscow.

a. PARAMONOV, A. A., 1951.—[Combating the gall nematodes in glass-houses.] Year 1951, No. 7, pp. 61–64. [In Russian.]
b. NIKITINA, T. F., DOLININ, V. P., GRISHIN, G. N. & KARAFA-KORBUT, M. I., 1951.—[Use of chloropicrin for the control of nematodes in protected ground.] Year 1951, No. 9, p. 68. [In Russian.]

(919a) After a brief description of root-knot disease in cucumbers, the author describes in detail a method of steam treatment of the soil in an infested glass-house. The soil is dug and allowed to become dry before steaming, and is covered by tarpaulins and boards during treatment which lasts for three hours. After treatment, yields of cucumbers were improved, particularly in June and July. M.T.F.

(919b) Root-knot nematode was controlled in a heavily infested glass-house by the use of chloropicrin. The chemical was injected at 10–13 cm. and 30–35 cm. at points 20 cm. apart, at the rate of 330 gm. per sq.m. The soil surface was covered and the glass-house sealed for 20 days, when the soil was turned and the house ventilated. Crops were planted 2½ months after the treatment and gave high yields. M.T.F.

920—Schweizerische Medizinische Wochenschrift.

a. BONSDORFF, B. von, 1951.—"Blutbildende Faktoren und Bandwurmanämie." 81 (50), 1246–1247.

(920a) Bonsdorff reports experiments which support the assumption that *Diphyllobothrium latum* takes up vitamin B_{12} in the human body and in this way withdraws from the host this anti-anaemic substance. A.E.F.

921—Science Bulletin of the Faculty of Agriculture, Kyushu University.

a. YOSHII, H. & YAMAMOTO, S., 1951.—[On some methods for the control of the rice nematode disease.] 12 (2), 123–131. [In Japanese : English summary p. 131.]
b. YOSHII, H., 1951.—[On the growth habit and yield of rice plants affected with *Aphelenchoides oryzae*.] 12 (2), 133–141. [In Japanese : English summary pp. 140–141.]

(921a) By advancing the time of sowing rice by about 60 days it has been found that nematode infection can be avoided. As immersion of seed in water at 50°C.–52°C. for five to ten minutes after being soaked in water below 20°C. for 16 to 20 hours did not destroy the pathogens of important rice diseases which hibernated in the husk, a new hot-water method has been devised: this consists of the immersion of dry seed in water at 56°C.–57°C. for ten to fifteen minutes, sixty days before seed time. Retardation of germination occurred only when the dry seed was immersed in water at 60°C. for more than twenty minutes. R.T.L.

(921b) Rice seed (variety Asahi), severely infested with *Aphelenchoides oryzae*, was grown in pots 90 cm. × 60 cm. in size (i) without hot-water treatment and (ii) after the dry seed had been immersed in hot water at 57°C. for fifteen minutes as a control. The untreated plants showed white tip leaves, usually on the main culms. The number of culms with white tip leaves was inversely proportional to the tiller order and were most frequently found in the uppermost leaves. The leaves of affected plants showed abnormal dark green colouration long after heading. There was no difference in the total residual nitrogen in the soil of the affected or healthy plants. Nineteen out of 40 infected plants showed abnormal tillers with unripe ears and with leaves without white tip. As compared with the controls, infected plants were inferior in culm height and number of grains per ear. There was a decrease of 30% in the unhulled grain weight. The number of culms and the percentage of sterile spikelets per ear were increased. R.T.L.

922—Scientific Monthly. Washington.

a. STEWART, I. E., 1951.—"Helminths in history." 72 (6), 345–352.

923—Semaine des Hôpitaux de Paris.

a. COVALEDA ORTEGA, J., 1951.—"Toxines ascaridiennes." 27 (71), 2771–2773.
b. MAZZOTTI, L. & TREVIÑO, A., 1951.—"La semence de courge dans le traitement du taenia." 27 (80), 3184–3185.
c. HILLEMAND, P., GILBRIN, E. & TOULET, J., 1951.—"A propos de deux cas d'échinococcose alvéolaire." 27 (88), 3522–3529.

(923a) Covaleda Ortega describes his experiments on the action of extracts of *Ascaris lumbricoides* on frog heart preparations. Extracts of the anterior produced blockage at a concentration of 1:500 and depression followed by blockage at 1:100 ; extracts of the middle part of the worm depressed systole at 1:1000 and the effect increased with increasing concentrations; extracts of the posterior end exerted an initial tonic effect which persisted at 1:1000 but at 1:100 caused depression followed by blockage. Perienteric fluid provoked a marked depressive action at 1:20 and 1:30 but a slight hypertonic effect at 1:500. Extracts of whole worms caused depression followed by blockage at 1:100, 1:50 and 1:30. S.W.

(923b) Although they have not treated many cases of taeniasis with extract of pumpkin seeds using 500 gm. of seeds for each individual dose instead of 1,000 gm., Mazotti & Treviño are of the opinion that this new procedure is satisfactory. The extracts were tyndallized in order to preserve them. S.W.

924—Shikoku Acta Medica.

a. MIYAKE, H. & OIKE, K., 1951.—[The mass chest survey of the lung-distomiasis (Part 1).] 2 (5), 233–238. [In Japanese : English summary p. 233.]
b. OIKE, K., ASODA, Y. & SIRAKAWA, T., 1951.—[Mass chest survey of paragonimiasis (Part 2).] 2 (6), 304–306. [In Japanese : English summary p. 304.]

(924a) Paragonimiasis is common in the Kochi prefecture in Japan. In two villages 4·1% and 4·4% of the population were infected. With somewhat primitive X-ray apparatus 66 out of 73 cases of proved infection were confirmed. R.T.L.

(924b) A mass chest survey for paragonimiasis was carried out in the Shimanto riverside districts in Ehime prefecture, which are notable endemic areas. The intracutaneous reaction and microscopical examination of the sputum for eggs were positive in 26 of 135 cases investigated, and six were positive for eggs only. X-ray findings in the 26 cases were, cystic shadow in two, nodular shadow in six and infiltration shadow in 18. In three cases complicated with tuberculosis, the tubercular cavity was often large enough to differentiate it from the small oval, cystic shadow of paragonimiasis. Calcification is not present in paragonimiasis. R.T.L.

925—Sicilia Sanitaria.

*a. BERTOCCHI, 1951.—" L'echinococcosi in Sicilia." 4 (11), 755–758.

926—Southern Medical Journal.

a. HOEKENGA, M. T., 1951.—"Treatment of ascariasis with 1-diethylcarbamyl-4-methyl-piperazine hydrochloride." 44 (12), 1125–1127.
b. SENTER, W. J., 1951.—" Trichinosis : its prevalence, diagnosis and prevention." 44 (12), 1127–1130.

(926a) Hoekenga has investigated the efficacy of hetrazan against ascariasis in man. Thirty-eight patients (aged from 2 to 76 years) were treated with various dosages without fasting or purging. Of those who received a total of 900 mg. in three equal doses in one day or 1 gm. in a single dose only about one third ceased to pass eggs in their faeces. Of the 15 who received 20 mg. three times daily for three days nine were cured. No toxic effects were observed. Hetrazan is therefore not recommended for mass treatment but is considered to be of value for the treatment of children and debilitated persons. S.W.

927—Southwestern Veterinarian.

*a. HANDER, R., 1951.—" Tapeworm cysts in a chinchilla." 4 (4), 42.

(927a) Hander reports the removal of a cyst of *Multiceps serialis* from the stifle joint of a chinchilla. [Based on an abstract in *Biol. Abs.*, **26** (1), No. 2273.] S.W.

928—Sovetskaya Meditsina.

a. TALKOVSKI, S. I., 1951.—[Helminthiasis in ophthalmology.] Year 1951, No. 12, pp. 17–21. [In Russian.]

(928a) Talkovski reviews the cases of ocular helminthiasis produced by *Cysticercus cellulosae*, hydatid, *Loa loa*, *Dirofilaria repens*, *Trichinella spiralis* and the migrating larvae of *Ascaris lumbricoides*. He draws attention to the importance of helminths in the diagnosis of ocular diseases. C.R.

929—Speculum.

a. KOUTZ, F. R., 1951.—"Meat inspection." 5 (1), 16–19, 49.

930—Srpski Arhiv za Celokupno Lekarstvo. Belgrade.

a. MIKEŠ, A., 1951.—[Epidemiology of helminthiasis in Bosnia and Hercegovina.] 79 (7/8), 559–564. [In Serbian.]

b. STOJANOVIĆ, V. & VUJADINOVIĆ, B., 1951.—[A case of renal echinococcosis.] 79 (7/8), 603–605. [In Serbian.]

931—Städtehygiene. Hamburg.

a. BLAAS, K. H. & PFEUFFER, F., 1951.—"Abwasseruntersuchungen auf Spulwurmeier in einer städtischen Kläranlage." 2 (11), 301–304.

(931a) Blaas & Pfeuffer have made a study of the Ascaris ova content of sewage at various stages in its treatment and at varying depths of the treatment tanks. They report that even in modern treatment plants, Ascaris ova are not completely eliminated and that this is partly due to uncontrollable disturbances of the water in sedimentation tanks caused by wind and weather which hinder the settling of ova. The dangers of using such sewage on agricultural land are pointed out. A.E.F.

932—Strasbourg Médical.

a. KOEBELÉ, J., OUDET, P., PETITJEAN, R. & HUTT, J. P., 1951.—"Lobectomie inférieure droite pour kyste hydatique du poumon." Nouvelle série, 2 (5), 296–298.

b. WEISS, A. G., KOEBELÉ, F. & HURTER, H., 1951.—"Extirpation en un temps d'un volumineux kyste hydatique du poumon et de sa loge fibreuse." Nouvelle série, 2 (12), 771–773.

c. KOEBELÉ, F., OUDET, P., PETITJEAN, R. & HUTT, J. P., 1951.—"Lobectomie inférieure droite pour kyste hydatique du poumon." Nouvelle série, 2 (12), 774–776.

(932c) [This paper is identical with No. 932a above.]

933—Süddeutsche Schäfereizeitung.

*a. WETZEL, R. & ENDREJAT, E., 1951.—"Entwicklungsgeschichte und Bekämpfung des Schafbandwurmes." Year 1951, pp. 190–191.

(933a) Wetzel & Endrejat describe *Moniezia expansa* and its life-history. Sheep become infected by ingesting mites and infection is most likely to occur (from mites which have overwintered) when the animals first go out to pasture in the spring. Older sheep have usually acquired an immunity and infection is most dangerous in lambs under six months. Control of Moniezia infection can only be achieved by preventive treatment of an entire flock, and this is best carried out four to five weeks after the sheep go out to pasture. By this method worms should be destroyed before eggs have been deposited, thus preventing infection of mites. Sheep should not be kept out at pasture during treatment. [From an abstract in *Dtsch. tierärztl. Wschr.* 1952, 59, 11–12.] A.E.F.

934—Svensk Jordbruksforskning.

a. PETRELIUS, T., 1951.—"Lungmasksjuka hos nötkreatur i Sverige." Year 1951, pp. 208–211.

(934a) The lungworm (*Dictyocaulus viviparus*) is not common among cattle in Sweden but during the last few years the occurrence of it has increased. The parasite has been found both in elk and in roe-deer which may be of importance in the spread of the infestation. In cattle few animals have died but the disease causes heavy losses in milk production. The disease always occurs during the grazing season. S.B.

935—Tekel Enstitüleri Raporları. Istanbul.

a. BLUNCK, H., 1951.—" Betr.: *Heterodera marioni* Goodey." 6 (2), 38–40. [In German : also in Turkish pp. 41–43.]

(935a) This is an account of a three-day journey in search of root-knot eelworm in Turkey. Young mulberry trees were severely attacked. Peach trees were also found affected and in some places tomato and beet: in one instance potato and *Chenopodium album* had galls on the roots. In spite of careful search no galls were found on tobacco. It is urged that continued observations should be made on tobacco. M.T.F.

936—Terapevticheski Arkhiv.

a. SEMENOVA, N. E., 1951.—[Demonstration of a patient with *Thominx aerophilus* infection.] 23 (6), 89. [In Russian.]
b. PODYAPOLSKAYA, V. P., 1951.—[Pavlovian theory as a principle in solving helminthological problems.] 23 (6), 89–90. [In Russian.]

937—Terre Marocaine.

*a. ZOTTNER, 1951.—" Prophylaxie vétérinaire de l'échinococcose au Maroc." 25, 330–332.
*b. JONCQUIERT, 1951.—" Les sangsues." 25, 441–444.

938—Tobacco. New York.

*a. WARD, D. M., 1951.—" Electric shock to nematodes effective pest killer in Southern Rhodesian trials." 132, 6.

939—Transactions of the Illinois Academy of Science.

a. SEMRAD, J. E. & COORS, M. J., 1951.—" The rise and fall of immunity to *Trichinella spiralis* in the albino rat and its effects on growth and reproduction of the parasite." 44, 253–258.

(939a) In albino rats a persistent partial immunity is produced by *Trichinella spiralis* while developing to maturity in the intestine. The immune mechanism has an inhibiting effect on the physiological activities which affect growth and reproduction. Adult females recovered from immune rats are significantly smaller and contain fewer eggs and larvae than those from rats not previously immunized. The immunity, which is greatest during the migration of the larvae and declines when the invasion of the muscles is at its height, still persists 54 days after infection but gradually declines. R.T.L.

940—Transactions of the Royal Society of South Australia.

a. JOHNSTON, T. H. & EDMONDS, S. J., 1951.—" Australian Acanthocephala No. 8." 74 (1), 1–5.
b. JOHNSTON, T. H. & MAWSON, P. M., 1951.—" Additional nematodes from Australian fish." 74 (1), 18–24.
c. JOHNSTON, T. H. & ANGEL, L. M., 1951.—" The life history of *Plagiorchis jaenschi*, a new trematode from the Australian water rat." 74 (1), 49–58.
d. JOHNSTON, T. H. & ANGEL, L. M., 1951.—" The morphology and life cycle of the trematode, *Apatemon intermedius*, from the black swan." 74 (1), 66–78.

(940a) The three Australian Acanthocephala described and illustrated in this paper are: *Arhythmorhynchus frassoni* from *Numenius cyanopus*, *Longicollum pagrosomi* from *Mylio australis* and *Mediorhynchus corcoracis* n.sp. from *Corcorax melanorhamphus* and *Corvus bennetti*. *M. corcoracis* is near to *M. tenuis* but differs in having on the proboscis 12 spiral rows, each containing 11–13 hooks whereas *M. tenuis* has nine hooks per row. R.T.L.

(940b) Johnston & Mawson report the presence in Australia of (i) *Terranova galeocerdonis* in the sharks, *Stegostoma tigrinum*, *Orectolobus maculatus* and *Sphyrna lewini*; (ii) *Contracaecum* (*Thynnascaris*) *legendrei* from the marine fishes, *Promicrops lanceolatus* and *Sciaena antarctica*, and immature forms in *Caranx georgianus*; (iii) *Contracaecum* larvae in various fresh-water fishes from the Murray River; (iv) *Acanthocheilus bicuspis*

from the cat shark, *Halaelurus vincenti*; (v) *Goezia fluviatilis* larvae encysted in six additional species of fishes in the lower Murray region; (vi) *Eustrongylides gadopsis* larvae in several additional hosts; (vii) *Proleptus urolophi* n.sp. from the sting ray, *Urolophus testaceus*, differs from other species of the genus in the more forward position of the vulva and in the dentition; (viii) *Capillaria orectolobi* n.sp. from the carpet shark, *Orectolobus devisi*; the male is 15·3 mm. long, the oesophageal region occupies about half the length of the body but the oesophageal cells are indistinguishable; the spicule is 10·1 mm. long and is alate with a spinose sheath; the bursa is very small and has one papilla at each side; no bacillary bands were observed. R.T.L.

(940c) *Plagiorchis jaenschi* n.sp. is described from the Australian water rat, *Hydromys chrysogaster* var. *fulvolateralis*, trapped on the banks of the Murray River. It is closely related to *P. muris*. Relaxed specimens of *P. jaenschi* differ from *P. muris* in body dimensions. The oral and ventral suckers, testes and ovary are much smaller. The genital pore is close to the bifurcation of the gut. The ovary is nearer the acetabulum. The posterior testes are more remote from the end of the worm. The yolk follicles are less numerous at the posterior end where the two groups meet. *Limnaea lessoni* was infected experimentally and emitted cercariae six to seven weeks later. Naturally infected snails were also found. The various stages of the life-cycle are described and figured. The cercariae encysted in experimental infections in *Daphnia* sp., *Chiltonia subtenuis*, *Cherax destructor* and in mosquito larvae, but not in molluscs, tadpoles or in *Gambusia affinis*. R.T.L.

(940d) *Apatemon intermedius* is redescribed and figured from *Chenopis atrata* in New South Wales. Experimental infection of *Planorbis isingi* but not of *Limnaea lessoni* was successful. The cercariae readily encysted in *Glossiphonia* spp. As S. J. Johnston's type material must be presumed lost, one of the authors' specimens of *A. intermedius* has been designated as the substitute type and deposited in the South Australian Museum. R.T.L.

941—Travaux du Laboratoire d'Hydrobiologie et de Pisciculture. Grenoble.

*a. DORIER, A. & HEILMANN, R., 1951.—"Sur la résistance des poissons et des invertébrés aquatiques dans les eaux souillées par l'ypérite." **46–47**, 9–17.

*b. DORIER, A., 1951.—"Présence de *Glossosiphonia heteroclita* subsp. *hyalina* (O.F.M.) dans la cavité palléale de *Limnaea stagnalis* (L.)." **46–47**, 65–67.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR.

a. SKRYABIN, K. I. & SHIKHOBALOVA, N. P., 1951.—[A reconstruction of the classification of nematodes of the suborder Oxyurata Skryabin, 1923.] **5**, 5–8. [In Russian.]

(942a) The suborder Oxyurata is reconstructed as follows: OXYUROIDEA with (i) OXYURIDAE for Oxyurinae, Pharyngodoninae, Ozolaiminae and Travnematinae, (ii) HETEROXYNEMATIDAE for Heteroxynematinae, Acanthoxyurinae and Aspiculurinae, (iii) SYPHACIIDAE [n.fam.] for Syphaciinae, Laurotravassoxyurinae and Tachygonetriinae [n.subf.]; COSMOCERCOIDEA [n.superf.] with (i) COSMOCERCIDAE for Cosmocercinae, Aplectaninae [n.subf.], Amblyonematinae [n.subf.], Lauroiinae [n.subf.], Oxysomatiinae, Probstmayriinae [n.subf.], Schrankiinae [n.subf.] and Syphaciellinae [n.subf.], (ii) LAURONEMATIDAE [n.fam.], (iii) DUBIOXYURIDAE for Dubioxyurinae [n.subf.] and Maupasininae, (iv) GYRINICOLIDAE; SUBULUROIDEA with (i) SUBULURIDAE for Subulurinae, (ii) HETERAKIDAE for Heterakinae and Aspidoderinae, (iii) KATHLANIIDAE for Kathlaniinae and Cissophyllinae, (iv) ONISCICOLIDAE, (v) PARASUBULURIDAE; ATRACTOIDEA with (i) ATRACTIDAE for Atractinae and Ibrahimiinae, (ii) AORURIDAE for Aorurinae and Blattophilinae [n.subf.], (iii) HOPLODONTOPHORIDAE, (iv) CROSSOCEPHALIDAE, (v) CRUZIIDAE, (vi) LABIDURIDAE, (vii) OXYASCARIDAE, (viii) RHIGONEMATIDAE for Rhigonematinae, Carnoyinae, Hethinae [n.subf.] and Ransomnematinae, (ix) THELASTOMATIDAE for Thelastomatinae, Protrelloidinae, Lepidonematinae, Hystrignathinae and Binematinae [n.subf.]. [No diagnoses are given but see also No. 1,011 below.] R.T.L.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

b. SHIKHOBALOVA, N. P., KUSTOVA, L. I. & KOSILOVA, A. M., 1951.—[The influence of Ascaridia on the vitamin A in the liver of chicks.] **5**, 9–13. [In Russian.]

c. MOZGOVOI, A. A., 1951.—[The Ascaridata (Anisakoidea) of mammals in the U.S.S.R.] **5**, 14–22. [In Russian.]

d. MOZGOVOI, A. A. & NOSIK, A. F., 1951.—[On the validity of *Ascaris ovis*, the ascaris of small ruminants.] **5**, 23–27. [In Russian.]

e. SPASSKI, A. A., 1951.—[A reconstruction of the genus *Cittotaenia* Riehm, 1881, with the establishment of a new genus *Mozgovoyia* n.g.] **5**, 28–33. [In Russian.]

(942b) Experiments were carried out with 10-day-old Leghorn chicks reared on a basic diet poor in vitamin components. Three groups of 50 chicks each were used. The first received basic diet with the addition of green vegetables and yeasts, the second basic diet with the addition of pure vitamins A and B_2 and the third one received the basic diet alone. When the chicks were 37 days old, 20 were taken from each group and infected with 200 embryonated eggs of *Ascaridia*. These eggs had been kept in the laboratory for $1\frac{1}{2}$ months and caused only slight infection, 2 to 14 worms developing in individual chicks. On the 14th, 27th and 37th day after the infective feed, three chicks from each group were killed, the amount of vitamin A in 1 gm. of liver was estimated and the worms counted and measured. In the first group the amount of vitamin in infected chicks was roughly 30% of that in uninfected ones on the 14th and 37th days; in the second group it was the same on the 14th day, but was roughly 60% on the 24th day and 30% on the 34th day. In the third (control) group it was 30% on the 14th and 24th days. The gain in weight was less in all infected batches of chicks than in uninfected ones. G.W.

(942c) Fourteen species of Anisakidae Skryabin & Karokhin, 1945, recorded in the territory of the U.S.S.R. are listed, one being new. The genus *Anisakis* Dujardin, 1845 is divided into *Anisakis* n.subg. and *Skrjabinisakis* n.subg. In the subgenus *Anisakis* the ventricle is four or more times longer than it is wide, the vulva is approximately in the middle of the body, the spicules are longer than 1·5 mm.; the type species is *A.* (*A.*) *dussumierii* (Beneden, 1870) Baylis, 1920. *Skrjabinisakis* has a short ventricle, its length being almost equal to its width, the vulva lies in the anterior fourth or third of the body, the spicules are not longer than 0·67 mm.; the type species is *A.* (*S.*) *skrjabini* Mozgovoi, 1949. *Anisakis* (*Skrjabinisakis*) *schupakovi* n.sp. from *Phoca caspica* (Caspian Sea) was described in 1936 by Shchupakov as *Anisakis* sp. Its main characters are: in the male, which is 20 mm. long with the cloacal opening 0·15 mm. from the tip of the tail, the absence of intermediate lips, tail alae and gubernaculum, and the presence of one or two pairs of postanal papillae; in the female, which is 50 mm. long, the presence of two lateral tubercles behind the lips. Detailed illustrated descriptions are given of *Contracaecum osculatum osculatum* (Rudolphi, 1802) Mozgovoi & Rizhikov, 1950 from *Phoca hispida*, *P. groenlandica* and *Erignathus barbatus* and of *C. osculatum baicalensis* Mozgovoi & Rizhikov, 1950 from *Phoca sibirica*. G.W.

(942d) A description is given of a female *Ascaris ovis* from *Saiga tatarica* obtained in the Kharkov Zoo. The authors confirm its validity, contrary to the opinion of Goodey (1926), stressing the pattern of the lip-pulp which in *A. ovis* has two whole lobes while in *A. lumbricoides* the lobes are bifid. G.W.

(942e) Spasski leaves in the genus *Cittotaenia* only one species, namely *C. denticulata* (Rudolphi, 1804). The most peculiar characters of this genus are a net-shaped uterus and numerous excretory vessels. Most other species which were previously assigned to this genus are transferred by the author to the genus *Ctenotaenia* Railliet, 1893. The latter genus is characterized by the uterus originating from a transverse tube and by the possession of only two pairs of excretory vessels. *Mozgovoyia* n.g. is characterized by the uterus which resembles that of *Ctenotaenia* and the possession of numerous excretory vessels. Its type species is *M. pectinata* (Goeze, 1782) other species being *M. perplexa* (Stiles, 1895) n.comb. for *Ctenotaenia perplexa* and *M. viscaciae* (n.sp. for *Cittotaenia pectinata* of Joyeux &

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

f. SPASSKI, A. A. & RIZHIKOV, K. M., 1951.—[Helminths of *Ochotona alpina* Pall. in the Baikal region.] **5**, 34–41. [In Russian.]

g. SPASSKI, A. A., ROMANOVA, N. P. & NAIDENOVA, N. V., 1951.—[New data on the helminth fauna of the muskrat, *Ondatra zibethica* (L.).] **5**, 42–52. [In Russian.]

Dollfus, 1931). The phylogenetic relationships of the hosts of the corresponding genera confirm the consistency of their separation. In conjunction with the new definition of the mentioned genera, the following changes in nomenclature are established: *Cittotaenia sandgroundi* Davis, 1944 is a synonym of *Diplogynia oligorchis* (Maplestone, 1922) Baer, 1925; *Cittotaenia africana* Joyeux & Baer, 1927 is transferred to the genus *Paronia* Diamare; *Cittotaenia kuvaria* (Shipley, 1900) Fuhrmann, 1901 and *Cittotaenia columbae* Skryabin, 1915 are transferred to the genus *Coelodela* Shipley, 1900 which was wrongly regarded by Baer (1927) as a synonym of *Cittotaenia*; *Cittotaenia avicola* Fuhrmann, 1897 resembles the cestodes of rodents and the correctness of the record of birds as hosts is doubted; *Cittotaenia psittacea* Fuhrmann, 1904 is transferred to the genus *Paramoniezia*; *Cittotaenia dratschynskii* Romanovich, 1915 is regarded as sp.inq. G.W.

(942f) Seventeen out of 19 *Ochotona alpina* were found harbouring helminths belonging to four species which are described and illustrated. *Schizorchis altaica* Gvosdev, 1951 is described as having a length of 60 mm. to 70 mm. and a width of 2·5 mm. to 3 mm.; the scolex is 0·13 mm. to 0·15 mm. wide, the segments wider than they are long, the ripe ones being 0·7 mm. long and 2·5 mm. wide; there are two excretory vessels; the genital atrium lies in the middle third of the lateral edge; there are 40–50 testes arranged in two narrow groups on the side of the yolk gland behind the uterus and vagina; the cirrus pouch is narrow, 0·5 mm. long; the ova measure 47 μ–60 μ long. *Cephaluris andrejevi* Schulz, 1948 has three lips, and a bilobed hood hangs behind the dorsal lip; the lateral alae are wider in the region of the oesophagus, narrowing behind it and reaching the posterior part of the body; the oesophagus is without a distinct bulbus and lacks a denticular apparatus; the male is 6·3 mm. to 7 mm. long and has two pairs of preanal papillae, one pair of adanal, and two pairs and one single postanal papillae; there is a semi-spherical projection behind the anus separating the last pair of papillae; no spicule was observed but the end portion of the cloaca is strongly chitinized; the female is 9·5 mm. to 11·2 mm. long; the vulva lies near the middle of the anterior half of the body; the ova measure 99 μ–112 μ in length. *Eugenuris schumakovitschi* Schulz, 1948 occurred in three host specimens. *Eugenuris* sp. differs from the preceding species by the presence of a head vesicle, the length of the female which is 19 mm., the presence of six double teeth surrounding the oral opening, the buccal capsule having two chambers, the oesophagus being 1·54 mm. long without distinct bulbus or denticular apparatus, the vulva being 9·6 mm. from the anterior extremity, the tail being short with a pointed appendage and the ova measuring 93 mm. to 97 mm. in length; no male was found. G.W.

(942g) The parasitic worms of the musk-rat in the U.S.S.R. are listed. The musk-rat became widespread in the U.S.S.R. where it was found to harbour 19 species of helminths among which are 17 species not found in this host in other countries. These are: *Plagiorchis eutamiatis zibethica* Vasilev 1939, *Psilotrema marki* Skvortzov, 1933, *Lyperosomum vitta* (Dujardin, 1845), *Taenia crassiceps* Zeder, 1800, *Echinococcus granulosus* (Batsch, 1786) larva, *Hymenolepis fraterna* (Stiles, 1906), *H. diminuta* (Rudolphi, 1819), *Aprostatandrya* (*A.*) *macrocephala* (Douthitt, 1915) Spasski, 1949, *Paranoplocephala omphalodes* (Hermann, 1783), *Syphacia obvelata* (Rudolphi, 1802), *Longistriata dalrymplei* Dikmans, 1935, *Rodentocaulus ondatrae* Schulz, Orlov & Kutas, 1933, *Porrocaecum* sp., *Contracaecum spiculigerum* (Rudolphi, 1809) Railliet & Henry, 1912, *Trichocephalus suis* (Schrank, 1788), *Polymorphus minutus* (Goeze, 1782) and *Macracanthorhynchus hirudinaceus* (Pallas, 1781). A detailed description of *Andrya* (*A.*) *macrocephala* and a brief one of *Longistriata dalrymplei* is given. G.W.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

h. SUDARIKOV, V. E. & RIZHIKOV, K. M., 1951.—[Notes on the helminth fauna of ungulates in the Baikal region.] 5, 53–58. [In Russian.]
i. SUDARIKOV, V. E. & RIZHIKOV, K. M., 1951.—[Notes on the bionomics of *Contracaecum osculatum baicalensis*, a nematode of the Baikal seal.] 5, 59–66. [In Russian.]
j. GUSHANSKAYA, L. K., 1951.—[Nematodes of birds in the Komi ASSR.] 5, 67–89. [In Russian.]

(942h) Of two *Moschus moschiferus* taken in the vicinity of the Baikal Lake, one harboured eleven specimens of *Dicrocoelium orientalis* n.sp., the second had no helminths. Additional specimens of this species were also recorded from *Cervus canadensis* from the Far East. The type specimen of *D. orientalis* has the following characters: length over 6 mm.; oral sucker 0·3 mm. in diameter; prepharynx absent; pharynx 0·16 mm. × 0·14 mm.; oesophagus 0·28 mm.; caeca running three quarters to four fifths of the body length; acetabulum 0·4 mm. in diameter; testes of irregular outline, lying between the first and second third of the body, almost on the same level but not adjacent, the one nearer the ovary being always a little larger; cirrus pouch 0·3 mm. long, its bottom reaching the anterior edge of the acetabulum only in very contracted specimens; ovary often with irregular outlines, 0·2 mm. in diameter, situated to the left of the middle of the body; yolk glands in the middle part of the body occupying approximately one half of its length and reaching to the level of the posterior edge of the testes; ova 0·04 mm. × 0·02 mm. A key to ten species of *Dicrocoelium* is given. *D. dendriticum* is regarded as a synonym of *D. lanceatum*. *D. baskakovi* Ivanitzky, 1928 is regarded as belonging to the genus *Brachylecithum* Strom, 1940. One female specimen of *Trichocephalus capreoli* Artuch, 1948 was found in *Cervus canadensis*, taken near the Baikal Lake. As the original description was only of a male, the following information is added to the original description: length 35 mm., divided into a 27 mm. thin anterior part and an 8 mm. posterior one; ova 57 μ long. This species differs from the following parasites of ruminants, *T. ovis* (Abilgaard, 1795), *T. skrjabini* Baskakov, 1924 and *T. longispiculum* Artuch, 1948 by its smaller eggs which in these species are over 70 μ long, and from *T. lani* Artuch, 1948 by the ratio between the thin and thick parts of the body being different, 27:8 and 27:17 respectively. G.W.

(942i) Comparison of the morphology of larvae common in the body-cavity, stomach, intestine and liver of about 50% of the endemic fish *Cottocomephorus grewingki*, with that of adult and immature *Contracaecum osculatum baicalensis* Mozgovoi & Rizhikov, 1950 which is common in the Baikal seal, *Phoca sibirica*, revealed their identity. A crustacean, *Macrohectopus branickii*, is supposed to be the first intermediate host. G.W.

(942j) Statistical results are given of dissection of 961 birds during the 265th Soviet Helminthological Expedition in 1947 to Komi (in the region of the upper Volga). The following are some selected records: *Skrjabinoclava decorata* (Solonitsin, 1928) Sobolev, 1943 and *Schistorophus cornutus* Sobolev, 1943 in the gizzard of 9 out of 23 *Terekia cinerea*; the genus *Skrjabinoclava* Sobolev, 1943 is placed in the subfamily Echinuriinae Sobolev, 1943 which is emended; *Tetrameres crami* of Puchov, 1939 is quoted as a synonym of *T. puchovi* Gushanskaya, 1949 [the respective reference is not quoted] which is a homonym of *T. crami* Swales, 1933; *Diplotriaena diucae* Boulenger, 1920 in *Motacilla alba*, *M. citreola*, *M. flava* and *Emberiza aureola*; *Serratospiculum turkestanicum* Skryabin, 1915 in *Falco columbarius*; *Porrocaecum clerci* (Skryabin, 1926) Mozgovoi, 1949 in *Nucifraga caryocatactes*, *Amidostomum boschadis* Petrov & Fedyushin, 1949 in *Anas crecca*; *Syngamus taiga* Rizhikov, 1949 in *Nucifraga caryocatactes*, *Acrocephalus schoenobaenus* and *Motacilla alba*. G.W.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

k. GUSHANSKAYA, L. K., 1951.—[Changes in the classification of the nematodes of the families Acuariidae and Histiocephalidae.] **5**, 90–92. [In Russian.]

l. DELYAMURE, S. L., 1951.—[A new pseudaliid—a lung parasite of the Black Sea dolphin.] **5**, 93–97. [In Russian.]

m. DELYAMURE, S. L., 1951.—[The origin of the adaptation of pseudaliids to parasitism in the respiratory organs of cetaceans.] **5**, 98–104. [In Russian.]

(942k) Four subfamilies are distinguished in the family Acuariidae. All are parasites of birds and are characterized by typical cordons at the anterior extremity. They are: (i) Acuariinae Railliet, Henry & Sisov, 1912, (ii) Streptocarinae Skryabin, 1941, (iii) Echinuriinae Sobolev, 1943 sens. emend., and (iv) Seuratiinae Chitwood & Wehr, 1932 sens. emend. The last subfamily which originally contained three genera, *Seuratia*, *Streptocara* and *Yseria* and was later suppressed, is reinstated with only one genus *Seuratia*. The Ancyracanthinae York & Maplestone, 1926 comprising species characterized by the presence of four cuticular dentated appendages and parasitizing reptiles is removed from the Acuariidae and placed in the Histiocephalidae. The diagnosis of the latter family is emended to comprise those species with 2–4 preanal papillae. It has four subfamilies, (i) Histiocephalinae Skryabin, 1941, (ii) Ancyracanthinae York & Maplestone, 1926, (iii) Stellocaronematinae Skryabin, 1941 and (iv) Parabronematinae Skryabin, 1941. The subfamily Cyclozoninae, which was included in the Acuariidae by Skryabin, Shikhobalova & Sobolev, 1949 and consists of one genus *Cyclozone* Dogiel, 1932 from sturgeons, is characterized by an angular cuticular fold at the cephalic extremity and does not belong to the Acuariidae. Its exact position in the system is not clear although it is regarded as belonging to the Spirurata. G.W.

(942l) *Halocercus* (*Posthalocercus*) *kleinenbergi* n.sp. was found in 16 out of 34 specimens of *Delphinus delphis ponticus*. This is the third species of the subgenus, the other two species being parasites of *Phocaena relicta*, viz., *H.* (*P.*) *taurica* Delyamure, 1942 and *H.* (*P.*) *ponticus* Delyamure, 1946. The anterior extremity of the parasite is inserted into a narrow blood vessel, the middle part is surrounded by lung parenchyma and the posterior extremity hangs in the lumen of small air passages. The diagnosis of the new species is as follows: oesophagus cylindrical, buccal capsule very weakly developed, male 61 mm. to 108 mm. long and 0·3 mm. to 0·4 mm. wide; there is an oval bursa, preceded by a transverse cuticular elevation, having the following rudimentary papillae-shaped rays, one pair of ventrals, one pair of laterals and a single dorsal; the cloacal opening is 0·02 mm. to 0·03 mm. from the tip of the body. The bent spicules (0·74 mm. to 0·85 mm. long) are provided with alae on their middle part; the gubernaculum has a snake-like bend and is 0·17 mm. to 0·20 mm. of the total length, the proximal end being wide and the distal pointed; the female is 193 mm. to 293 mm. long with a tapering tail, the distance between the vulva and the tip of the tail is 0·07 mm. to 0·08 mm., and between the vulva and the anus 0·045 mm. to 0·064 mm. G.W.

(942m) Adaptations which enable six species of metastrongylids living in the lungs of Black Sea dolphins and porpoises to resist the strong expiratory current are discussed. The anterior extremity of *Skrjabinalius cryptocephalus* from *Delphinus delphis* is bent into a knot and embedded in a capsule which is formed by the host's tissue; the wall of the capsule becomes calcified. *Halocercus taurica* from *Phocaena relicta* "sews" the lung tissue with the anterior part of its body while the posterior part hangs in the lumen of the bronchioles. *Halocercus ponticus* from *P. relicta* lives in the capsules connected with a bronchus by a narrow passage through which only larvae can escape. Usually several adult males and females are included in each capsule. *Halocercus kleinenbergi* from *D. delphis* is embedded in the lung tissue and its body is twisted into many knots; the posterior extremity hangs free in a bronchiole. *Stenurus minor* and *S. ovatus* have not developed any means of fixation; they are often expelled to the mouth or nasal cavities in the air current and are thus eliminated from their hosts. G.W.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

n. KRASNOPEROV, N. P., 1951.—[Classification of the changes caused by onchocerciasis of the withers in horses and their clinical characteristics.] 5, 105–118. [In Russian.]

o. OSHMARIN, P. G. & DOTSENKO, T. K., 1951.—[A new parasite of domestic and wild birds, *Ornithodendrium imanensis* Oshmarin & Dotsenko, 1950.] 5, 119–120. [In Russian.]

p. OSHMARIN, P. G. & BELOUS, E. V., 1951.—[Notes on the filariae of wild animals.] 5, 121–127. [In Russian.]

(942n) A short history of investigations carried out by Russian workers is given. Three stages of onchocerciasis of the withers are distinguished: (i) asymptomatic, (ii) aseptic, and (iii) purulent. The asymptomatic stage may involve not only the tendon but also the spinous processes of the thoracic vertebrae. The tissues involved may become hyalinized and calcified. The aseptic stage is characterized by hard swelling but the host's temperature remains normal and the general state good. At the end of this stage fluctuating hollows may be formed containing sterile, yellowish fluid in which may be found pieces of fibrin and distintegrating worms. The purulent stage may be of three types, depending on the organs involved: (a) in the suprascapular ligament only, (b) in the suprascapular ligament, trapezius muscle and scapular cartilage, and (c) in the bursa of the withers and surrounding tissues. During these changes numerous fistulae open at varying places out of which comes purulent fluid containing fragments of worms, necrotic host tissues, and granules of calcified increments. The development of the purulent process is accompanied by leucopenia and the disappearance of eosinophils. G.W.

(942o) *Ornithodendrium imanensis* has been found in the domestic hen, crows (*Corvus corone*), and orioles (*Oriolus sinensis*) in the Far East. *Ornithodendrium* is related to the tribe Lecithodendriea Skarbilovich, 1943, of the subfamily Lecithodendriinae Looss, 1902. It is characterized by the position of the genital opening a little on the side, immediately in front of the acetabulum, and intestinal crura which show swellings in their anterior parts and reach the posterior part of the body. G.W.

(942p) This is a continuation of an article published in *Trudi Gelmintologicheskoi Laboratorii, Akademii Nauk, SSSR*, 1950, Vol. 3. *Alcefilaria abramovi* n.g., n.sp. was found in the veins of *Alces alces*: the cuticle is smooth; there are no oral lips but two rows of small papillae around the mouth; the posterior extremity of the male is bent cork-screw fashion; the spicules are unequal, the larger one consisting of a wide proximal and a thin distal part; there is one pair of preanal papillae and one pair of postanals; there are two pairs of minute papillae on the tip of the tail; the vulva is on a level with the proximal part of the glandular portion of the oesophagus; the uterus is opisthodelphic. *Alcefilaria* belongs to the subfamily Filariinae. *Pseudaprocta sichote-alinensis* n.sp. lives in the thoracic cavity of *Oriolus sinensis*: the cuticle is smooth; around the anterior extremity there is a wavy line of minute hooks; there are four circumoral papillae; the oral capsule is shallow; the oesophagus cylindrical and uniform in structure. The male is 14 mm. long, the spicules are equal and 0·58 mm. long, and the accessory body measures 0·075 mm.; there are four pairs of preanal papillae grouped together and another four pairs more anteriorly, two pairs of postanal papillae, and near the tip of the tail one single papilla and two pairs. The female is 23 mm. long. This species is differentiated from *P. gubernacularia* Shikhobalova, 1930 and *P. decorata* Li, 1933. *Pharyngosetaria butoridi* n.sp. from the air sacs of *Butorides striatus* is also described and figured. The two small lips are surrounded by four small papillae behind which there are four larger ones; the oesophagus has two distinct parts. The male is 3·1 mm. long; the spicules are unequal, the larger one being of uniform thickness and 0·28 mm. long, the smaller one 0·12 mm. long; there are two pairs of small postanal papillae. This species differs from *P. marcinowskyi* by the size and structure of the spicules and the number and disposition of the caudal papillae. G.W.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

q. KROTOV, A. I., 1951.—[The reciprocal effect of helminths on their position in the gut.] 5, 128–129. [In Russian.]
r. KROTOV, A. I., 1951.—[New cestodes from birds.] 5, 130–137. [In Russian.]
s. BOGDASHEV, N. I., 1951.—[*Dioctophyme skrjabini*, a new parasite of the kidney in dogs.] 5, 138–140. [In Russian.]
t. BURDELEV, T. E., 1951.—[A new species of whipworm, *Trichocephalus concolor* n.sp., from the intestine of the puma.] 5, 141–142. [In Russian.]

(942q) The distribution of *Toxocara mystax*, *Taenia taeniaeformis* and *Dipylidium caninum* along the intestine of cats was noted and any reciprocal influence between these species was observed in dissections and in experiments *in vitro*. The first 24 cm. of the intestine are occupied by *Toxocara*, the next 44 cm. by *Toxocara* and *Taenia* and the next 53 cm. by *Taenia* and *Dipylidium*. The last 10–12 cm. of the small intestine and the whole of the large intestine are free from these worms. The presence of *T. taeniaeformis* shortens the limits of *Toxocara* but *Toxocara* had apparently no effect on the distribution of *Taenia*. When tested by a modified Robello-de-Costa & Rico technique *Toxocara* became paralysed by the "toxoids" of *Taenia*, but this phenomenon was reversed in physiological saline. G.W.

(942r) Three species of a new genus *Diagonaliporus* of the subfamily Dilepidinae are described from birds in the island of Sakhalin. This genus is similar to *Lateriporus* but differs from it in the peculiar capacity of the genital pore to change its position gradually from one edge to the other on the ventral surface of consecutive segments. The type species *Diagonaliporus skrjabini* n.g., n.sp. was found in *Capella solitaria japonica*. The longest, but not fully mature, specimen was 20 mm. long; there are 14 rostellar hooks of the diorchid type 187 μ long; the young proglottides are elongated; the 6–10 testes lie near the posterior edge of the segment; the genital atrium has a strong sphincter, 0·2 mm. in diameter; the lobed ovary lies in the centre and the uterus, which is an inverted U-shape, in the middle portion of the proglottis. *D. schikhobalovae* n.sp. was found in *Scolopax rusticola:* specimens not fully mature were 38 mm. long; there are 16 rostellar hooks of the diorchid type 28 μ long and 8–12 testes; the cirrus sac is very narrow and crosses the excretory vessel; the genital atrium is situated near the middle of the proglottis and is closed by a sphincter 73 μ in diameter; the lobed ovary occupies almost the whole of the anterior part of the segment; the yolk gland is round and 63 μ in diameter, and the uterus is an inverted U-shape. *D. spasskyi* n.sp. was collected from *Clangula hyemalis*; fully developed specimens reach 51 mm. in length; the 12 rostellar hooks are of the diorchid type, 122 μ long; there are 7–12 testes, the cirrus sac crosses the excretory canal obliquely and almost reaches the anterior edge of the segment; the genital atrium opens on the level of the middle of the segment and is closed by a sphincter 110 μ in diameter; the lobed ovary lies in the anterior part of the segment; the uterus is an inverted U-shape and is broken down into lobes when ripe. G.W.

(942s) One specimen of a female *Dioctophyme skrjabini* n.sp. was removed from the kidney of a dog in Daghestan (Eastern Caucasus). The body is cylindrical, 57 cm. long and 10–12 mm. wide; the anterior extremity is conoid with two rows, each of six papillae around the oral opening; transverse striation is especially developed in the proximal 7 mm.; a row of minute, transversely oval papillae runs along the whole length of both sides of the body; the vulva opens 65 mm. from the anterior extremity; the ova measure 65–83 μ long. The Editor points out that this is the second species of the genus *Dioctophyme* but it is yet to be decided which of them shall be called *renale*. G.W.

(942t) *Trichocephalus concolor* n.sp. is described from a puma which died in the Moscow Zoo. The spicule is 5·9–6·0 mm. long; the female is 47–49 mm. long and the ova 77–91 μ long. This species is compared with three other species from carnivores; it differs from *T. vulpis* and *T. serratus* by the length of the spicules which are 8–11 mm. and 3·9 mm. respectively, and from *T. campanula* by the size of the eggs. G.W.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

u. GVOZDEV, E. V., 1951.—[A new species of tapeworm belonging to the family Anoplocephalidae from *Ochotona alpina*.] **5**, 143–145. [In Russian.]

v. MOROZOV, F. N., 1951.—[Helminths of wolves in the Mordva National Park.] **5**, 146–149. [In Russian.]

w. SAVINOV, V. A., 1951.—[A new trematode from the intestine of the mole, *Skrjabinomerus petrovi* n.sp.] **5**, 150–151. [In Russian.]

x. SKARBILOVICH, T. S., 1951.—[The susceptibility of various plants to the sugar-beet nematode.] **5**, 152–156. [In Russian.]

(942u) *Schizorchis altaica* n.sp. is described from *Ochotona alpina* caught in the southern Altai mountains (Siberia). The new species is 150 mm. long, and the genital openings alternate irregularly and lie at the middle of the lateral edge of the proglottides; there are 50–60 testes, situated on both sides of the female genitalia near the posterior edge of the segment, and they do not cross the excretory vessels; the cirrus is covered with small spines and the cirrus sac slightly crosses the excretory vessel; the uterus appears as a transverse tube giving off lateral diverticula and in ripe segments it looks like a lobed sac. G.W.

(942v) Of 20 wolves caught in the Mordva National Park 95% harboured parasitic worms belonging to 9 species. Noteworthy was the presence of *Taenia krabbei* in four wolves and *Oncicola skrjabini* n.sp. in one. As reindeer, which are known to be intermediate hosts of *T. krabbei*, are absent from Mordva other deer are supposed to serve in this role. *Oncicola skrjabini* is 31–33 mm. long; the rostellum is situated on top of a pyriform neck 2·4 mm. long and is armed with six spiral rows of hooks, 5 in each; the length of the two anterior hooks is 0·093–0·111 mm. and that of the third hook is 0·065–0·070 mm.; the fourth and fifth hooks are thorn-shaped and 0·021–0·027 mm. long; the ova are 0·138–0·140 mm. long. A key to 10 species of *Oncicola* is given. G.W.

(942w) *Skrjabinomerus petrovi* n.sp. from *Talpa europaea* trapped in the Kalinin region is described: the oral sucker is much larger than the acetabulum; there is a small prepharynx and oesophagus; the testes are lobate; the uterus fills the space between the anterior testis and the acetabulum; the yolk glands unite in front of the acetabulum and fill the whole space behind the testes; the ova are 52–54 μ long. This species differs from the other species of this genus, *S. desmanae* Sobolev, V. Mashkov & N. Mashkov, 1939, by the greater development of the yolk glands, the presence of a prepharynx and oesophagus, and the size of the eggs which are larger. G.W.

(942x) By putting 5-day-old seedlings of various plants in tubes containing water and 30 viable cysts of *Heterodera schachtii*, the author observed the influence of root excretions of the plants on the emergence of larvae from the eggs. Taking the control tube as 100 the hatching showed 852 for sugar-beet, 158 for vetch, 113 for wheat, 109 for pea, 93 for corn, 90 for onion, 45 for potato, and 36 for lucerne. By examining 43 plant species 30–40 days after sowing them in soil containing *Heterodera* cysts the greatest infection was observed on sugar-beet (1,785 females for one plant), most of the other plants remaining free. However, the soil may have contained cysts of several species of *Heterodera* and therefore the results are not conclusive as far as specific susceptibility is concerned. The author established the presence of *Heterodera göttingiana* on vetch, pea, lentils and "masha". *H. göttingiana* is known to occur in the Poltava region (Ukraine) on lucerne. Females of an undetermined species of *Heterodera* were found on onion. In order to observe the infectivity of *H. schachtii* for various plants infected seedlings of sugar-beet were planted among 24 species of crop plants in small plots free from *Heterodera*, each plot receiving from 10 to 396 ripe and active females of *H. schachtii*. When examined 17–19 days later 12·5%–46% of both sugar and table beet plants were found infected but no other plants, including potatoes, *Vicia* spp., graminaceous plants and certain other species, proved attractive to *H. schachtii*. G.W.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

y. SCHULZ, R. S. & ANDREEVA, N. K., 1951.—[The comparative anatomy of the 'arches' in nematodes of the family *Protostrongylus*, and their significance in classification.] 5, 157–161. [In Russian.]

z. SHAKHTAKHTINSKAYA, Z., 1951.—[A new nematode, *Petroviprocta vigissi* n.g., n.sp., from the thoracic cavity of the night-heron.] 5, 162–164. [In Russian.]

ba. SHAKHTAKHTINSKAYA, Z., 1951.—[A new trematode, *Allopyge skrjabini* n.sp., from the orbit of the grey crane.] 5, 165–167. [In Russian.]

bb. SHIGIN, A. A., 1951.—[A new filaria from the heron.] 5, 168–172. [In Russian.]

bc. SKARBILOVICH, T. S., 1951.—[List of Russian literature on agricultural helminthology during the period 1880–1950.] 5, 173–185. [In Russian.]

bd. MATEVOSYAN, E. M., 1951.—[Results of the 250th Soviet Helminthological Expedition in 1945 to Kirghiz SSR.] 5, 186–194. [In Russian.]

(942y) The authors are of the opinion that the so-called sclerotised areas situated in the caudal extremity of male nematodes of the family Protostrongylidae are homologues of the "telamon" described by Hall in *Hyostrongylus rubidus*. These arches constitute a complicated system of plates and the authors propose to call them "telamon apparatus". The following elements are recognized and called plates: one basal, two vertical, one transverse, one (mostly) dorsal, two lateral and two proximal. The last named plates may have medio-proximal and dorso-proximal appendages, as in *Neostrongylus* (these appendages were described in a previous paper—Schulz, Kadenatsii & Andreeva, 1949, as "branches of latero-ventral plates"). This scheme is illustrated by drawings of the telamon apparatus of *Protostrongylus raillieti* and *Neostrongylus linearis*. Descriptions are given of the structure of the telamon apparatus in various subfamilies of the family Protostrongylidae and various genera of the subfamily Protostrongylinae. G.W.

(942z) *Petroviprocta vigissi* n.g., n.sp., from the thorax of *Nycticorax nycticorax*, taken in Azerbaijan (eastern Caucasus) is described. The new genus is differentiated from *Pseudaprocta* Shikhobalova, 1930, and *Skrjabinocta* Chertkova, 1946, by the possession of a cuticular appendage with a small papilla near the tip of the tail and six pairs of circumoral papillae. There are either lips or cuticular ornaments, the spicules are almost equal and an accessory piece is present. G.W.

(942ba) *Allopyge skrjabini* n.sp. is described from *Grus grus*, taken in Azerbaijan (eastern Caucasus). This species differs from *A. antigones* Johnston, 1913, in that its yolk glands cover the intestine and the testes are transversely oval. G.W.

(942bb) *Heterospiculum sobolevi* n.g., n.sp. was found in the connective tissue of the leg of 8 out of 12 *Ardea cinerea* in Darvin National Park, near Ribinsk, North Russia. It belongs to the family Seteriidae, subfamily Dipetalonematinae, and is nearly related to the genus *Hastospiculum*. The main characters are an oral opening surrounded by a chitinized ring which has two bilobed epaulet-like appendages, and 8 circumoral papillae. The oesophagus is divided into a muscular and a glandular part; the tail of the male is provided with alae; there are big preanal papillae but no postanals; there are two large globular projections near the tip of the tail; the spicules are very unequal and there is no accessory piece. G.W.

(942bc) This list of papers published in Russia on plant-parasitic nematodes consists of over 300 references. G.W.

(942bd) The 250th Soviet Helminthological Expedition consisting of K. I. Skryabin, E. M. Matevosyan, A. A. Mozgovoi, A. A. Spasski and A. N. Chertkova collected parasitic worms from animals in the southern part of Kirghiz State. During two months 640 dissections were performed. The following is the rate of infection found: birds 49%, mammals 55%, fishes 24%, amphibians 64%, reptiles 28%. Altogether 136 species of parasitic worms were determined, 17 of which proved new to science. A list of hosts depicting the degree of their infection is appended. G.W.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

be. MOZGOVOI, A. A., SPASSKI, A. A. & POPOVA, T. I., 1951.—[Results of the 257th Soviet Helminthological Expedition in 1946 to the Lake Tchanee in the Novosibirsk region.] 5, 195–206. [In Russian.]

bf. OSHMARIN, P. G., 1951.—[Results of the 260th Soviet Helminthological Expedition in 1946.] 5, 207–219. [In Russian.]

bg. MOZGOVOI, A. A. & POPOVA, T. I., 1951.—[Results of the 264th Soviet Helminthological Expedition in 1947 in the Bieloviezh Forest.] 5, 220–231. [In Russian.]

bh. PODYAPOLSKAYA, V. P., SPASSKI, A. A. & RIZHIKOV, K. M., 1951.—[Results of the 265th Soviet Helminthological Expedition on the river Pechora (Komi ASSR).] 5, 232–251. [In Russian.]

(942be) The 257th Soviet Helminthological Expedition collected parasitic worms from 1,126 hosts, belonging to 126 species, caught and dissected in the vicinity of Tchanee lake, in southern Siberia. The following is a list of the infection rates which were found: birds 60%, mammals 42%, fish 18%, amphibians 88%, reptiles 5 out of 9. A list of hosts depicting the degree of their infestation is appended. G.W.

(942bf) The 260th Soviet Helminthological Expedition collected helminthological specimens during 8 months on the whale ship "Aleout", working near the shores of Kamchatka. Six species of whales were examined. Owing to the great length of the intestine of some whales (up to 250 metres in large specimens) only fragments of this organ could be examined. All whales harboured, in addition to other helminths, very numerous *Anisakis* sp. in the stomach, *Bolbosoma* sp. in the intestine, and giant nematodes *Crassicauda* sp. in the renal tissue. The expedition also collected parasitic worms from a few other mammals, and reported, *inter alia*, an intensive infection of a domestic cat with adult *Echinococcus granulosus*. Many helminths were collected from 29 species of birds and 20 species of fishes. A list of hosts depicting the degree of their helminthic infection is appended. G.W.

(942bg) The 264th Soviet Helminthological Expedition collected material in the Bieloviezh Forest (between Poland and Russia proper) from 1,610 animals. The following is the rate of helminth infection recorded: mammals 75%, birds 51%, reptiles 33%, amphibians 92% and fishes 59%. Among the records the following are emphasized: *Parafasciolopsis fasciolaemorpha* in *Capreolus* sp. and a dicrocoeliid in wild boar. A list of dissected animals depicting the degree of their infection is given. G.W.

(942bh) The 265th Soviet Helminthological Expedition worked in the summer of 1947 along about 950 km. of the Pechora river (north-east of European Russia). The expedition was housed in a barge which changed anchorage according to needs. The work was divided among two teams, medical and biological. The medical team examined 1,495 persons in 25 settlements; stools of every person were examined at least twice by the Fülleborn technique and some of the infected people were treated and their stools examined subsequently. At least four species of *Diphyllobothrium* were diagnosed, *D. latum*, *D. tungussicum*, *D. skrjabini* and another unnamed species which may possibly have been a mixture of two species. *Diphyllobothrium* was found more frequently than other helminths. *Trichuris trichiura*, *Ascaris lumbricoides* and *Hymenolepis nana* were rare and were mostly found in people from other districts. *Opisthorchis*, contrary to expectation, was not found; this is explained by the absence of *Bithynia*, its intermediate host, from the territory. The biological team dissected 1,211 vertebrates. The average infection in fishes was 55%; 19 out of 21 *Rana temporaria* were infected; one out of three *Lacerta vivipara* examined was infected; birds were heavily infected but the infection was different in different orders: Anseriformes were infected up to 92%, Charadriiformes up to 88%, Raptores up to 85% and Passeriformes up to 49%. G.W.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

bi. RIZHIKOV, K. M., 1951.—[Results of the 268th Soviet Helminthological Expedition in 1948 in western Georgia.] 5, 252–260. [In Russian.]

bj. SADOKOV, S. B., 1951.—[Results of the 270th Soviet Helminthological Expedition in Primorsky State.] 5, 261–269. [In Russian.]

bk. RIZHIKOV, K. M. & SUDARIKOV, V. E., 1951.—[Results of the 272nd Soviet Helminthological Expedition in 1949 in the vicinity of the Baikal Lake.] 5, 270–292. [In Russian.]

bl. GAGARIN, V. G., 1951.—[Results of the 273rd Soviet Helminthological Expedition in 1949 in Koustanay district of the Kazakh SSR.] 5, 293–298. [In Russian.]

bm. POTEMKINA, V. A., 1951.—[Monieziasis in calves.] [Abstract of thesis.] 5, 299–302. [In Russian.]

(942bi) The 268th Soviet Helminthological Expedition worked during two months in the vicinity of the town of Samtredia in the south-western Caucasus. Its main task was an investigation of the biology of *Syngamus skrjabinomorpha*, a parasite of chickens and geese, but helminthological material from numerous species of birds and some from other animals was also collected. An average of 46% of the birds was infected. The heaviest infection was found in the Charadriiformes (96%), the lowest one in the Passeriformes (33%). A list of hosts and the rate of infection by the classes of worms is given. G.W.

(942bj) The 270th Soviet Helminthological Expedition dissected a total of 804 animals in Primorsky State in the Soviet Far East. The main task was to investigate the game birds and the water tortoises of the genus *Trionyx* in the basin of the Khanka Lake. All the tortoises were infected and over 63% of the birds harboured helminths. All of 28 *Sciurus vulgaris* and 25 *Sorex minutus*, and 22 out of 27 *Eutamias sibiricus* harboured helminths. A list of hosts is given showing their infection by the various classes of helminths. G.W.

(942bk) The 272nd Soviet Helminthological Expedition collected parasitic worms from various animals in the vicinity of the Baikal lake during four summer months of 1949. Its task was to collect the helminths of the local fauna which is very rich in endemic species. A total of 1,826 animals, mostly birds and fishes, representing 185 species was dissected. Almost 70% of the fishes harboured helminths, the rate in endemic fishes being higher than that in non-endemic ones: 62% of the birds were infected, 42% harbouring cestodes, 24% trematodes, 20% nematodes and 1·6% acanthocephalans. A list of hosts showing infection rates with trematodes, cestodes, nematodes and acanthocephalans is given. G.W.

(942bl) The 273rd Soviet Helminthological Expedition collected parasitic worms in the steppe region of the Kazakh Republic, abounding with lakes. Over 200 animals, representing 32 species of birds and 3 of mammals, were dissected. Over 90% of the birds harboured helminths, mainly cestodes. A list of hosts showing infection rates by classes of helminths is given. G.W.

(942bm) The author observed the experimental life-cycle of *Moniezia expansa*, *M. benedeni* and *Thysaniezia ovilla*. *M. expansa* develops in the following intermediate hosts: *Scheloribates laevigatus*, *S. latipes*, *Trichoribates* sp., *Punctoribates* sp., *Galumna obvius*, *Achipteria* sp. and *Adoristes ovatus*. *M. benedeni* develops in the same mites and also in *G. nervosus*. *Thysaniezia ovilla* develops in the same mites except *Punctoribates* sp., *Achipteria* sp. and *G. nervosus* but in addition it will also develop in *Phtirocarus* sp. The susceptibility of the species of mites is not equal. During development in the mite the cestode larva passes through seven stages: (i) onchosphere, (ii) megalosphere, (iii) metamere, (iv) the stage in which the scolex appears, (v) invagination, (vi) larvacyst and (vii) infective larvacyst. *M. benedeni* reaches the gravid stage in calves after 50 days and in lambs after 47–49 days. *M. expansa* requires 37–40 days in both hosts. Infective larvae of these cestodes pass the winter in mites and may develop in calves in September of the following year. The mite hosts are absent from dry hay and may be present only in the lowest layer of the haystacks. Eggs of *M. benedeni* and *M. expansa* remained viable for more than 55 days in

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

bn. GESELEVICH, E., 1951.—[An X-ray study of the morphology and function of the small intestine in ascariasis.] [Abstract of thesis.] **5**, 302–308. [In Russian.]

bo. GRIGORYAN, G. A., 1951.—[A study of the parasitic worm fauna of wild ruminants in Armenia, and their significance in spreading helminthiasis among domestic sheep and goats.] [Abstract of thesis.] **5**, 308–310. [In Russian.]

bp. DEMIDOV, N. V., 1951.—[The epizootiology of strongylosis of horses.] [Abstract of thesis.] **5**, 310–313. [In Russian.]

water and 40 days in moist faeces but only for 15 days when dried in air. As a preventive measure the author recommends "preimaginal" anthelmintic treatment (1% copper sulphate) in animals in which the infection is expected, 25–30 days after being put on infected pasture. The treatment should be repeated 25–30 days later if the animals continue to use the infected pasture. The best method for prevention of infection is to raise the calves on clean pastures or in stalls. G.W.

(942bn) One hundred and forty-five patients in whom ascariasis was diagnosed by means of X-rays served as a basis for this study; only 65 showed clinical symptoms. For the examination the patients were given 150 c.c. of barium emulsion on an empty stomach; observations were made in both vertical and horizontal positions half an hour later and repeated every 30 minutes until either ascarids were seen or the barium entered the caecum. The worms were seen as bright, tapering tapes 0·4–0·6 mm. wide against the dark background; the intestine of the worms when filled with barium manifested itself as a dark line. The worms seldom appeared to be straight and were mostly located in the middle of the jejunum. When many were present they might be distributed all over the small intestine but never in the large one. The presence of ascarids causes various types of impairment of the intestinal movement which are described in detail. Often the worms cause spasmodic constrictions with subsequent stasis and an accumulation of gases. The contour of the intestinal mucosa changes in the presence of the ascarids, the feathery surface becoming smooth and the folds large and rigid. The author presumes that all these changes are due to specific toxins excreted by the ascarids. G.W.

(942bo) *Ostertagia* (*Grosspiculagia*) *aegagri* n.sp. is described from *Capra aegagrus*. It differs from all known species in having a thicker dorsal ray and a wide, heart-shaped gubernaculum. *Nematodirus davtiani* n.sp. from *C. aegagrus* resembles *N. filicollis* but differs from it in the structure of the distal end of the spicules and by the shape of the dorsal rays [but details are not given]. *Ostertagia* (*Ostertagia*) *davtiani* n.sp. from Armenian mountain sheep is differentiated from (i) *O. orloffi* by the size of the body, the length of the oesophagus, the shape and size of the gubernaculum and the shape of the inner branches of the spicules; from (ii) *O. dahurica* by the size of the body, the shape and size of the gubernaculum and the shape of the distal end of the spicule stem; from (iii) *O. trifurcata* by the size of the body, oesophagus and spicules and by the size and shape of the gubernaculum [but details of these differences are not given]. *Trichostrongylus andreevi* n.sp. from *Capreolus capreolus* resembles *T. skrjabini*, *T. capricola*, *T. minor*, *T. colubriformis* and *T. retortaeformis*. It differs from *T. skrjabini* by the shape and larger size of the spicules and from three of the others by the indistinct separation of the hooks on the spicules [but differences from *T. minor* are not indicated]. *Rinadia schulzi* n.g., n.sp. from *C. capreolus* belongs to the tribe Ostertagiaea Skryabin & Schulz, 1937. The distinctive feature of this new genus is the shape of the dorsal ray which resembles a wide cone covered on its ventral side by a thick cuticular sheet stretching up to the cloacal opening. *O. mossi* Dikmans, 1931 possibly belongs to this genus. Altogether 35 species of helminths were determined; the infection rate was comparatively low. Liver-flukes, which were common in the local domestic animals, were not found in the wild ruminants. G.W.

(942bp) Although examinations made during the life of horses showed that *Strongylus equinus* infection fluctuates between 8·5% and 61%, post-mortem examinations revealed an average of 57%. The strongyle larvae develop in the pancreas and 62% of the horses

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

bq. FEOKTISTOV, P. I., 1951.—[The epizootiology and prophylaxis of ascaridiasis in chickens.] [Abstract of thesis.] 5, 313–314. [In Russian.]

br. KRYUKOVA, K. A., 1951.—[The treatment of ascariasis in swine.] [Abstract of thesis.] 5, 315–316. [In Russian.]

bs. PANASYUK, D. I., 1951.—[Hexachlorethane in the treatment of basic nematode infections of horses.] [Abstract of thesis.] 5, 316–318. [In Russian.]

bt. TIUNOV, V. I., 1951.—[Nodular trichonemiasis of the large intestine of horses.] [Abstract of thesis.] 5, 318–322. [In Russian.]

examined were found to be infected. Animals between 5 and 10 years old were infected more often and more severely. There was no seasonal fluctuation of the infection by adult and larval stages. Larvae in the last developmental stage were found in the pancreas of 6-month-old foals and in the intestine of 9-month-old foals. The pathological changes caused by the larvae of *S. equinus* consist of numerous haematoma, connective tissue capsules in the pancreas and general pancreatitis. One case of death caused by *S. equinus* larvae is mentioned. G.W.

(942bq) The author recommends *inter alia* that young chickens should be raised separately from adults, that infected chickens should be treated in the months of November and December and that all the excrement of infected birds should undergo bio-thermic treatment. In the field-upkeep system the transportable coops should be moved after 30 days in May, after 15 days in June and after 20 days in July and August; these places should not be used again until 1½ to 2 months have elapsed. The field should be ploughed once or twice a year. G.W.

(942br) Several anthelmintics were tested against ascarids in pigs 2½ to 6 months old. Sodium fluoride was tested on 2,384 animals and proved to be the most reliable. When given in doses of 0·05–0·2 gm. per kg. body-weight, mixed with wetted food after 16–24 hours of food and water starvation, it reduced the infection in 80%–100%. When given pure on the tongue it caused vomiting and was less effective; 0·6–1·0 gm. per kg. may cause serious clinical symptoms but not death. The dead worms first appear in the stools on the second day and continue to pass for the next seven days. Hexylresorcinol was also effective but was impracticable in application. Phenothiazine showed only 50% efficacy. Naphthaline, butylidene chloride, tetrachlorethylene, hexachlorethane, Osarsol, barium chloride, chenopodium oil and "pijma" proved to be ineffective. G.W.

(942bs) Hexachlorethane proved to be highly effective against ascarids, strongyles and *Trichonema* in horses in a dose of 0·4 gm. per kg. body-weight. It should be given to individual animals with wetted food or in pills or capsules after starvation for 12 hours. No purgative is necessary for hexachlorethane enhances peristalsis. The toxicity of this drug is manifested at doses of 10 gm. per kg. G.W.

(942bt) The histopathology of larval trichonemiasis was investigated during the dissection of 75 horses of varying age in the vicinity of Kirov in European Russia. All the animals had nodules, mostly in the wall of the caecum and to a lesser degree in the colon. The heaviest infections were observed in young animals from six months to two years old. The youngest foal harbouring nodules was 30 days old, and the youngest harbouring adult *Trichonema* was 56 days old. Over 20,000 nodules were found in some cases. *Trichonema* larvae are located in the mucosa at the base of the Lieberkühn glands. Larvae of *Cylicocyclus* and *Gyalocephalus* occurred in the submucous layer. It is possible to distinguish between nodules caused by larvae of *Trichonema*, *Cylicocyclus* and *Gyalocephalus* but it is impossible to determine the species on their morphology. Clinical symptoms are also described. G.W.

942—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

bu. SHKODIN, N. E., 1951.—[Studies on the epizootiology, the biology of the causative agent, and the prevention and treatment of *Chabertia* infections in sheep in Kirghizia.] [Abstract of thesis.] 5, 323–324. [In Russian.]

bv. SVESHNIKOVA, N. M., 1951.—[Notes on the main *Heterodera* infections of cultivated plants in the U.S.S.R.] [Abstract of thesis.] 5, 324–326. [In Russian.]

bw. SUDARIKOV, V. E., 1951.—[The helminth fauna of vertebrates in the Middle Volga region.] [Abstract of thesis.] 5, 326–330. [In Russian.]

(942bu) Chabertiasis is common in the Kirghiz republic and during March and April up to 2,000 worms may be counted in individual sheep. Third-stage larvae develop five days after oviposition. Two months are required for the larvae to reach maturity. Intensive infection causes serious symptoms and on the 40th–50th day diarrhoea is common. Single infections with 1,500–2,000 larvae causes death of the host. Treatment consisted of enemata of 1–1·5 litres of 1% formalin. G.W.

(942bv) The following species of the family Heteroderidae Skarbilovich, 1947 are established in Russia, *Heterodera* (on sugar-beet, wheat, peas and potato), root-knot nematodes and the citrus nematode, *Tylenchulus semi-penetrans*. *T. semi-penetrans* was found in 17 hosts species [not named] and is not regarded as a serious pest. *H. rostochiensis* occurs in small foci in "some points" [the exact distribution is not mentioned]. Several derivatives of carbaminic acid were tested in the laboratory; five derivatives (ethers) of dithiocarbaminic acid showed an efficacy of 100% when used in doses of 150 gm. per sq. metre [these compounds are not exactly defined]. Root-knot nematodes were found as far north as the vicinity of Moscow. Thirty new hosts hitherto not recorded in Russia were observed [but their names are not given in this abstract]. Application of 10%–20% of an ether of dimethyldithiocarbaminic acid in doses of 110–250 gm. per sq. metre gave a considerable reduction in infection in both the laboratory and in field experiments; 350 gm. per sq. metre showed an efficacy of 100%. G.W.

(942bw) The author has summarized the results of the 63rd and 79th Soviet Expedition to the Middle Volga Region. 1,324 animals belonging to 124 species were dissected in addition to 1,194 animals which were partially examined in the slaughterhouses. A new subfamily of the Echinostomatidae, the Allechinostomatinae is proposed to contain the genera *Allechinostomum* Odhner, 1911, *Stephanoprora* Odhner, 1902 and *Sobolevistoma* Sudarikov, 1950. The genus *Skrjabinoeces* Sudarikov, 1950 is included in the Pneumonoecesinae in addition to *Pneumonoeces* and *Ostiolum* Pratt, 1902, the latter being validated. *Renicola* is split into two subgenera, *R.* (*Renicola*) n.subg. and *R.* (*Stamparia*) n.subg., *Stamparia* Nezlobinski, 1926 being reduced to subgeneric rank. The following thirteen species were described from material collected: *Plagiorchis oscineus* Sudarikov, 1950 (in *Acrocephalus schoenobaenus*), *Renicola pandioni* Sudarikov, 1947 (in *Pandion haliaetus*), *R. undecima* Sudarikov, 1947 (in *P. haliaetus*), *Skrjabinoeces breviansa* Sudarikov, 1950 (in *Rana ridibunda*), *S. volgensis* Sudarikov, 1950 (in *R. esculenta*), *Sobolevistoma graciosa* Sudarikov, 1950 (in *P. haliaetus*), *Biuterina sobolevi* Sudarikov, 1950 (in *Saxicola rubetra*), *Dicranotaenia spasskii* Sudarikov, 1950 (in *Coracias garrulus*), *Diorchis oschmarini* Sudarikov, 1950 (in *Fulica atra*), *Hymenolepis cavoarmatus* Sudarikov, 1950 (in *Turdus pilaris*), *Contracaecum pandioni* Sobolev & Sudarikov, 1939 (in *P. haliaetus*), *Diplotriaena gelani* Sudarikov, 1950 (in *T. pilaris*) and *Sexansocara skrjabini* Sobolev & Sudarikov, 1939 (in *P. haliaetus*). *Oswaldocruzia skrjabini* Ivanizky, 1940 is renamed *O. ivanizkii* nom. nov. *Petasiger neocomense* Fuhrmann, 1927 is regarded as a synonym of *P. megacanthus* (Kotlán, 1922). The oecological factors influencing the distribution and occurrence of parasitic worms are also discussed. G.W.

943—[Trudi Instituta Eksperimentalnoi Veterinarii Nauch. Ukrain.]

*a. KLESOV, M. D., 1951.—[Further study of the biology of nematodes of the genus *Thelazia* Bosc, 1819.] 18, 144–165. [In Russian.]

944—Trudi Zoologicheskogo Instituta. Akademii Nauk SSSR.

a. PAVLOVSKI, E. N. & KIRYANOVA, E. S., 1951.—[Phytonematology and the problem of parasitic diseases of plants produced by nematodes.] **9** (2), 363–377. [In Russian.]
b. KIRYANOVA, E. S., 1951.—[Variations in plant nematodes under the influence of food specialization.] **9** (2), 378–404. [In Russian.]
c. USTINOV, A. A., 1951.—[New facts in a study of *Heterodera marioni* (Cornu, 1879) Goodey.] **9** (2), 405–459. [In Russian.]
d. USTINOV, A. A. & MITROFANOV, P. I., 1951.—[Testing new organic compounds for the control of *Heterodera marioni*.] **9** (2), 460–461. [In Russian.]
e. SVESHNIKOVA, N. M., 1951.—[Test with dithiocarbamine acid for controlling plant nematodes.] **9** (2), 462–475. [In Russian.]

(944a) This review stresses the importance of plant-parasitic nematodes and draws attention to the possibilities of spreading some of them, particularly *Heterodera marioni*, to new areas in the steppes where shelter belts are planted. A study should be made as soon as possible of the nematodes parasitic in trees of importance in forestry and horticulture. There is a list of all papers produced in Russia on plant-parasitic, soil, marine and fresh-water eelworms, and on nematodes parasitic in insects, and also a list of papers published in foreign journals on nematodes in Russia. C.R.

(944b) Kiryanova sets out to prove that the formation of species in plant nematodes is according to Michurin's biology. The paper is supported by various papers published earlier. In her opinion the changes of adaptation in plant nematodes are determined by their feeding specialization; this in turn is governed by great possibilities of adaptation in the life-cycles of nematodes to the development of their host plants and in the formation of specific characters in the metabolism between parasite and host. The views of Imms, Goodey, Thorne and Ouboter on the biological races are held to be anti-Darwinistic and non-scientific. Highly specialized races according to Kiryanova should be considered as related species and she illustrates this by the following species: *Heterodera rostochiensis*, *H. schachtii*, *H. avenae* and *H. göttingiana*. The same applies to *Ditylenchus allii*, *D. destructor*, *D. phloxidis* and *D. fragariae*. Less specialized races of the genus *Ditylenchus* also belong to separate species, but they are not yet adapted to feeding only on determined host plants. C.R.

(944c) Ustinov deals with embryonic and postembryonic development of *Heterodera marioni*. He gives outlines of the morphological and anatomical structure at various stages and of the development of males and females, and discusses morpho-physiological adaptation to parasitism in this species. In the part devoted to the oecology of *H. marioni*, he discusses the oecology of the pre-parasitic larvae, the longevity and fertility of the females, the conditions of development of the males, climatic factors, the influence of temperature and humidity, and the role of predators and parasites. In the part dealing with host-parasite relationships he discusses the behaviour of nematodes and the reaction of the plants, the number of *H. marioni* in plants, the inoculation of microbes, pathogenicity, and immunity in plants. In the part concerning the hosts of *H. marioni*, he reviews the number and systematic position of the hosts, the susceptibility and resistance of plants and the biological forms of *H. marioni*. Finally, in the part dealing with the control of *H. marioni*, he discusses physical, chemical, agrotechnical and biological control, and surveys schemes of prophylactic measures for the control of this eelworm. A host list (117 plants) of *H. marioni* in the U.S.S.R. is given. C.R.

(944d) Ustinov & Mitrofanov have tested ten various organic compounds. They found that some of them acted as strong nematicides. Unfortunately they were also injurious to the plants, but these experiments are not conclusive. C.R.

(944e) Sveshnikova used the methyl ether of dimethyl-dithiocarbaminic acid prepared as a 10% and 20% dust introduced into soil and found that it had a nematicidal action against *Heterodera marioni*, *H. rostochiensis* and *Anguina tritici*. The results were particularly good with the 20% dust. Although in the field a single application of 175 gm., 200 gm.

944—Trudi Zoologicheskogo Instituta. Akademii Nauk SSSR. (cont.)

f. KHARICHKOVA, M. V., 1951.—[*Heterodera marioni* on gum-producing plants.] 9 (2), 476–478. [In Russian.]

g. KIRYANOVA, E. S., 1951.—[Chrysanthemum disease caused by nematodes and their control.] 9 (2), 479–507. [In Russian.]

h. SVESHNIKOVA, N. M., 1951.—[*Aphelenchoides oryzae* Yokoo, parasite of rice.] 9 (2), 508–511. [In Russian.]

i. KIRYANOVA, E. S., 1951.—[*Ditylenchus allii* (Beijerinck), the onion nematode.] 9 (2), 512–553. [In Russian.]

or 300 gm. per square metre of 10% dust or 110 gm. to 168 gm. per square metre of 20% dust did not produce 100% destruction of *H. marioni* and *H. rostochiensis*, nevertheless a better yield of cucumbers, carrots and potatoes was obtained with a much reduced number of nematodes. Sveshnikova also found that ethyl, butyl and isoamide ethers of dimethyl-dithiocarbaminic acid and butyl propyl ethers of diethyl-dithiocarbaminic acid, as 20% dust in the dose of 150 gm. per square metre, were highly nematicidal under experimental laboratory conditions. She concludes with the hope of using these dusts in the field as their application is much simpler than that of fumigants. C.R.

(944f) Kharichkova found that *Heterodera marioni* is very injurious to rubber-producing plants (*Taxaxacum kok-saghyz*) and in her experiments she found that drought of two months' duration reduced *H. marioni* to nil and other soil nematodes to 20%. C.R.

(944g) *Aphelenchoides ritzema-bosi* is widely distributed in the U.S.S.R. and is very injurious to chrysanthemums, asters and other flowers, often destroying 10%–75% of the plants. Kiryanova found this nematode exclusively in the upper parts of the plants. To obtain healthy plants, she recommends the immersion of cuttings for propagation for three to five minutes in water at 55°C. or for five to ten minutes in water at 50°C. This method is also good for infested young growing plants which after such treatment produced better flowers than the controls. Good results were obtained in controlling nematodes in plants grown for cut flowers when the plants were immersed in a water bath at 40°C. for 15–20 minutes, at 35°C. for 20–30 minutes, or at 30°C. for 30–40 minutes. To control *A. ritzema-bosi* it is necessary to protect the plants from the eelworm throughout the vegetative period. One of the most important measures is to remove from the field all the remnants of stems of old chrysanthemums; this considerably reduced the loss of plants. The paper is illustrated and gives a list of plants found during her investigations to be affected by *A. ritzema-bosi*. C.R.

(944h) Sveshnikova records the occurrence of *Aphelenchoides oryzae* in rice grown in a plant quarantine station in Krasnodar. To control this nematode she recommends immersion of rice seeds in water for 15 minutes at 52°C.–53°C. C.R.

(944i) In this extensive study of *Ditylenchus allii*, Kiryanova deals with the history, morphology, biology, the influence of this nematode on the onion, the feeding specialization and its ability (experimental) to infest tomatoes, peas and many other plants (of which she gives a list with scientific and common names). In onion, the worms are rarely found in the roots or in seeds but they are in the bulb and upper parts of the plants. In the field the remnants of infested plants seem to be reservoirs of *D. allii*, the soil being of only secondary importance as a reservoir. In order to control *D. allii* Kiryanova recommends (i) crop rotation, (ii) complete clearing from fields of remnants of onion plants, (iii) selection of healthy plants for seed, (iv) disinfection of onion stores immediately they are emptied of onions, (v) storing onions in low (1°C.–3°C.) or high (above 14°C.) temperatures which are unfavourable to *D. allii*, (vi) immersion of seedlings in water at 45°C.–46°C. for 10 to 15 minutes, at 50°C.–52°C. for 5 to 10 minutes or at 55°C.–57°C. for 3 to 5 minutes. (vii) fertilization of soil for onion planting with well rotted manure in which there is no danger that the remnants of diseased onion plants may be found. The paper is illustrated and is provided with many tables. C.R.

944—Trudi Zoologicheskogo Instituta. Akademii Nauk SSSR. (cont.)

j. PARAMONOV, A. A., 1951.—[*Ditylenchus dipsaci* (Kühn, 1858), the garlic nematode.] **9** (2), 554–572. [In Russian.]

k. LORENTS, L. Y., 1951.—[The races of the nematode, *Ditylenchus dipsaci* (Kühn, 1858).] **9** (2), 573–578.

l. SKARBILOVICH, T. S., 1951.—[Resistance of various plants against the nematode, *Ditylenchus dipsaci* (Kühn), parasite of potato and garlic.] **9** (2), 579–582. [In Russian.]

m. SVESHNIKOVA, N. M., 1951.—[A study of the potato nematode, *Heterodera rostochiensis* Woll., in the Soviet Union.] **9** (2), 583–591. [In Russian.]

n. SKARBILOVICH, T. S. & GUSHANSKAYA, L. K., 1951.—[The role of nematodes in the aetiology of sugar-beet diseases.] **9** (2), 592–596. [In Russian.]

o. SKARBILOVICH, T. S., 1951.—[Nematode fauna of sugar-beet seedlings.] **9** (2), 597–601. [In Russian.]

(944j) Paramonov describes the symptoms of disease in garlic affected by *Ditylenchus dipsaci* and the factors increasing the intensity and extent of infestation. He also redescribes and illustrates *D. dipsaci* and describes its biology and control. Affected garlic stored at 15°C. rots, but storing at 5°C.–8°C. retards the development of the disease. He recommends autumn planting of garlic; onion should not follow garlic in rotation. Application of "forbiat" should precede planting of potatoes. The treatment of garlic by immersion in warm water is possible. C.R.

(944k) Lorents, after analysing the biometric measurements of 450 specimens of *Ditylenchus dipsaci* from garlic and 125 specimens from onion, concludes that the measurements of the males and females in his material are smaller than those given by Goodey and Kiryanova. The paper contains illustrations of healthy and diseased garlic plants, and also tables giving measurements of garlic and onion forms of *D. dipsaci*. C.R.

(944l) Skarbilovich planted 35 species of plants in order to study the resistance to *Ditylenchus dipsaci*; he used potatoes as controls. When these plants sprouted he introduced pieces of potatoes containing *D. dipsaci* var. *solani* between them. The experiment lasted 40 to 45 days. There was no infestation in any of the plants except in potatoes. In the second experiment he planted 35 species and varieties of plants with onions affected by *D. dipsaci* var. *allii* among them, and found that in addition to onion, only garlic became infected. Only larvae of *D. dipsaci* were found on sugar-beet, hemp, carrot, spinach and radish. C.R.

(944m) Sveshnikova describes and illustrates the morphology, biology, pathogenicity and control of *Heterodera rostochiensis* in potato. C.R.

(944n) The authors examined for the presence of eelworms 449 healthy sugar-beets, 124 affected by "root" disease, 109 plants with the initial stage of "root" disease, 122 plants with rotting roots and 124 plants generally diseased. Altogether 926 plants were examined and 101 plants (10·9%) were found infected with eelworms of the following species: *Pratylenchus pratensis, Rotylenchus multicinctus, Aphelenchus avenae, Aphelenchoides parietinus* and *Acrobeles* sp. They also made a survey of the soil for nematodes and recorded 27 species. The analysis of the data obtained did not produce any new fact about the role of nematodes in relation to "root" disease of beetroot. Eelworms were found in only 20·8% of root diseased sugar-beet, while 76·2% affected by this disease were free from eelworms. C.R.

(944o) Skarbilovich reports the occurrence of eelworms on beet seedlings about 15 to 20 days after germination. Roots of young plants may be affected by nematodes up to 42%. Altogether he found 12 species of nematodes out of which the most common were: *Aphelenchus avenae* (40·3%), *Rotylenchus multicinctus* (18%), *Ditylenchus dipsaci*, *Aphelenchoides parietinus* (10·4%) and also species of the genus *Acrobeles* (up to 47·7%). C.R.

944—Trudi Zoologicheskogo Instituta. Akademii Nauk SSSR. (cont.)

p. PARAMONOV, A. A., 1951.—[Saprozoic nematodes of the Soviet Union.] **9** (2), 602–612. [In Russian.]

q. BELYAEVA, K. V., 1951.—[Distribution of nematodes in the soil and in the roots and stems of plants.] **9** (2), 613–624. [In Russian.]

r. KIRYANOVA, E. S., 1951.—[Soil nematodes of Golodnoi Steppe in Uzbekistan.] **9** (2), 625–657. [In Russian.]

(944p) This note on the saprobiotic nematodes of the U.S.S.R. discusses the position of *Demaniella cibourgensis*. In Paramonov's opinion this species should be separated from the family Diplogasteridae. He creates for it the subfamily Demaniellainae n.subf., with the following diagnosis: striated cuticle; head provided with two rings of sensory organs, the internal ring consisting of six bristles connected with deep sclerotized pockets and the external ring of six papillae; buccal cavity conical with large spinal *tumulus oris* with unevenly thickened walls; female genital organs paired; male genital tubule single; spicules bent with marked heads; gubernaculum long; genital armature of the male typically diplogasteroid. [The author claims to describe for the first time males of *D. cibourgensis*, but see also Helm Abs., 15, No. 495a.] A detailed description is given of *Neodiplogaster cryptolaimus* n.sp. which differs from other species primarily by the greater length of the tail. There is also a pseudobulbus; the excretory pore is situated differently and the nerve ring is nearer to the middle bulbus. C.R.

(944q) Belyaeva, working on the distribution of nematodes in the soil and in the roots and stems of plants, concludes that the nematode population of the soil consists of (i) typically soil forms which do not penetrate into plants and (ii) forms which penetrate into plants more or less constantly. The specific composition and number of worms in the soil depend on agricultural practices in relation to the soil, and the density of root systems. Soil left undisturbed permanently or for many years is richer in nematodes than the soil which is worked every year. Nematodes found in the soil but penetrating into plants consist of two types: (a) dominant in the soil and (b) dominant in plants. Those in group (a) penetrate into plants but usually do not injure them, except those which multiply heavily and which may then become injurious, e.g. *Rotylenchus multicinctus*. Of the nematodes dominant in plants those most commonly found are: *Eucephalobus elongatus*, *Aphelenchus avenae*, *Ditylenchus intermedius*, *Aphelenchoides parietinus* and *Cephalobus* sp.; as a rule they are not injurious to plants, but when multiplied in large numbers they concentrate in parts of the affected tissue and may open the gate for bacterial infection. In the author's opinion waste land is responsible for the contamination of arable fields with nematodes. The paper contains a list of species recorded by her. C.R.

(944r) Kiryanova, in a survey of virgin soil and soil of cotton plantations in Golodnoi Steppe in Uzbekistan, found different compositions of nematodes. She gives the quantitative and qualitative composition of nematodes and, in the systematic part, notes the occurrence of *Acrobeles desertus* n.sp., *A. ciliatus* and *A. serenus* n.sp., which differs from *A. ciliatus* by the cylindrical shape of the body, the height of the head outgrowth being lower, the position of the genital papillae and by the structure of the spicules and gubernaculum. *A. manifestus* n.sp. differs from other species by measurements and by the cylindrical form of the body, and by having a characteristic depression beyond the cloaca at the beginning of the tail. *A. bonus* n.sp., which differs from *A. contractus* by the structure of the head and beginning of the oesophagus, has the narrowing beyond the vulva poorly marked. *A. insons* n.sp. has a very thick body of characteristic shape, and the peculiar structure of the head and genital organs separate this species from other species. In *A. distinctus* n.sp. and *A. acutus* n.sp. the form of the body and structure of the head differ from other species. Also recorded are *A. desidiosus* n.sp., *A. innoxius* n.sp., *Ditylenchus intermedius*, *Pratylenchus pratensis* and *Tylenchorhynchus graminicola* n.sp. (which differs from *T. macrurus* by having the posterior end of the body pointed in both sexes, the genital papillae situated at the end of the first third of the posterior extremity and by the oral

944—Trudi Zoologicheskogo Instituta. Akademii Nauk SSSR. (cont.)

s. GUSHANSKAYA, L. K., 1951.—[Soil nematode fauna in Uzbekistan.] 9 (2), 658–660. [In Russian.]

spine and the length of the spicule), *T. claytoni*, *T. paucus* n.sp., *Tylenchus agricola*, *T. uncinatus* n.sp., *T. intactus* n.sp., *T. filiformis*, *Chitinotylenchus sedatus* n.sp., *Tetylenchus dimidius* n.sp., *Aphelenchus avenae* and *Aphelenchoides parietinus*. She gives the following diagnosis of Opailaimidae n.fam.: Dorylaimoidea with very large amphids which are connected with special, well marked glands easily seen without preliminary technique; the posterior part of the oesophagus muscular, markedly widened, surrounded by a cuticular sheath; the body cylindrical, noticeably narrowing towards the head and tail; the oral spine relatively long, thin and delicate. Two new genera are described. *Opailaimus* n.g., with the following diagnosis: Dorylaimoidea with very large amphids easily seen under the low power of the microscope, which look like two large eyes; at the base of each amphid opens the canal of a special gland situated a short distance from it; the oral spine is distinctly longer than the diameter of the body at the anterior margin of the head and is relatively thin and delicate but similar in shape to the spine of the Dorylaimidae; the oesophagus has a narrow middle part, where the nerve ring is situated, and wider anterior and still wider posterior muscular parts, the last representing about half of the oesophagus, and surrounded by spinal cuticular sheath; the body is cylindrical narrowing towards both ends; the type species is *Opailaimus mirus* n.sp. *Ottolaimus* n.g. is described as a relatively small nematode with a thin, nearly cylindrical body, very little narrowed in the region of the head and tail; on the lateral sides of the head there are two wide prominences like ears; the amphids are large and oval, placed under the cover of the prominences; the special glands are situated slightly below the base of the spine and their canals approach the bases of the amphids; the oesophagus is very narrow and long, widens at its posterior muscular half; spine thin and delicate; the type species is *Ottolaimus otiosus* n.sp. Of the Longidorinae the following are recorded: *Longidorus elongatus* and *L. nudus* n.sp., which differs from *L. elongatus* by the shape of the head which tapers towards the anterior margin, the thicker body, blunt tail and widened posterior end of the oesophagus. Of the Dorylaiminae the following are recorded: *Dorylaimus acuticauda*, *D. obtusicaudatus*, *D. paraobtusicaudatus*, *D. superbus*, *D. samarcandicus*, *D. submissus* n.sp. (which differs from *D. samarcandicus* by having a straight conical tail, being slightly longer and provided with 25 longitudinal thickenings of the external layer of the cuticle distributed at fairly even intervals along the whole body), *D. stilus* n.sp., *D. modicus* n.sp., *D. quietus* n.sp., *D. carteri* var. *brevicaudatus*, *Dorylaimus* sp., *Discolaimus* sp., *Tylencholaimus* sp., *Mermis* sp., *Plectus* sp., *Rhabditis* sp. and *Diplogaster* sp. C.R.

(944s) Gushanskaya lists 31 species of free-living nematodes in Uzbekistan. The genus *Dorylaimus* represents 78·7% of the nematodes. The most rarely found are *Tylenchus uniformis*, *Tylencholaimus* sp. and *Rhabditis* sp. Among the parasitic species the most common in the soil was *Rotylenchus multicinctus* (6·2%). C.R.

945—Tuberkuloza. Belgrade.

a. SERAFIMOV, K., 1951.—"Jedan slučaj akutno zagnojenog ehinokoka već tuberkuloznih pluća." [A case of acutely infected echinococcus in a tuberculous lung.] 3 (3/4), 262–267. [English summary p. 327.]

946—Türk Veteriner Hekimleri Derneği Dergisi.

a. KURTPINAR, H., ERGÜN, H. & ANTEPLIOGLU, H., 1951.—" Terapötik ve küçük dozlar halinde verilen phenothiazine'in koyun ve keçi sütlerinin rengi üzerine tesiri." 21 (55/56), 71–76. [English summary p. 76.]

(946a) When phenothiazine is given to lactating sheep and goats a pink colour appears in the milk after it has been exposed to the air for several hours. The authors have shown that the intensity and duration of the colouration is not dependent on the dosage of phenothiazine. S.W.

947—Ugeskrift for Landmaend.

a. ANDERSEN, S., 1951.—"Sortresistens mod havreaal." **96** (14), 218–220.

(947a) In Denmark, Rasmussen has tested the resistance of different varieties of oats and barley in experiments during 1946–1949. In his experiments three oat varieties were attacked by *Heterodera major* to a low degree only. In barley he found attacks on all varieties including those which have been considered to be resistant. S.B.

948—United States Armed Forces Medical Journal.

a. SENOO, T. & LINCICOME, D. R., 1951.—"Malayan filariasis. Incidence and distribution in Southern Korea." **2** (10), 1483–1489.

b. BELL, L. G., YON, J. L. & WILLIAMS, Jr., D. J., 1951.—"Echinococcus cysts of the liver with a report of two cases." **2** (12), 1851–1857.

(948a) Senoo & Lincicome give a series of tables showing the incidence and distribution of *Wuchereria malayi* based on the examination of 5,000 individuals from 25 villages in southern Korea. In all 604 were positive. The highest incidence was on Quelpart Island where 30·3% of 838 persons were found to be infected. R.T.L.

949—Vakblad voor de Bloemisterij.

*a. OPSTAL, W. J., 1951.—[Results from spraying with parathion.] **6**, 6. [In Dutch.]

950—Valencia Avícola.

*a. LAHOZ, V., 1951.—"Parasitosis intestinales, vermicidas y vermifugos." **8** (9), 25–27.

951—Verhandlungen der Deutschen Zoologischen Gesellschaft. (Zoologischer Anzeiger, Supplementband 15.)

a. SCHWÖBEL, W., 1951.—"Zeitrafferfilm-Untersuchungen über die Granulabewegung im Ei vom Pferdespulwurm *Parascaris equorum* (Goeze)." Year 1950, pp. 44–51.

b. MÜLLER, B., 1951.—"Die Differenzierung der Strongylidenlarven in der Darmwand des Pferdes. Vorläufige Mitteilung." Year 1950, pp. 309–312.

(951a) [A fuller account of this paper appears in *Protoplasma*, 1952, **41**, pp. 21–56. For abstract see Helm. Abs., **21**, No. 489a.]

(951b) In this preliminary communication Müller gives the result of her attempts to differentiate the horse strongyle larvae recovered from the intestines of 53 horses. She divides the larvae into three groups: Group A—those with no distinctively shaped mouth parts; Group B—those with a cylindrical buccal capsule; and Group C—those with cup-shaped buccal capsules. On the basis of morphological differences, and on the colour, shape and position of the worm capsule, she has been able to distinguish 19 "types". [No generic or specific names are mentioned.] A.E.F.

952—Vestnik Khirurgii Imeni Grekova. Leningrad.

a. PORTNOI, A. S., 1951.—[Case of renal echinococcosis with associated calculi.] **71** (4), 44–45. [In Russian.]

b. FISHER, M. Z., 1951.—[Case of unusual localization of echinococcal cyst.] **71** (6), 64–65. [In Russian.]

953—Veterinariya.

a. ZAITSEV, N. V., 1951.—[Leading practices in the control of helminthiasis.] **28** (11), 17–22. [In Russian.]

(953a) This is an account of prophylactic and control measures against helminths in the Ivankovsk region of Kiev county. The faeces of all animals were examined for parasitism. The distribution of *Limnaea truncatula* was mapped. Lectures and discussions on the

importance of parasites were given to the workers and animal attendants on farms. Newspapers and radio were also used for propaganda. The animals were treated with anthelmintics twice a year. All these methods produced good results and on some farms certain parasites disappeared, while the others were reduced to minimum. C.R.

954—Veterinarski Glasnik. Belgrade.

a. NEVENIĆ, V., 1951. [Poultry diseases caused by parasites.] 5 (8), 513–529. [In Serbian.]
b. REPAČ, S., 1951.—"Prilog poznavanju štetnog djelovanja parazita *Parascaris equorum*." 5 (9), 582–590.
c. SUIĆ, M., 1951.—"Borba protiv ehinokokoze u Argentini." 5 (10), 656–662.

(954a) Nevenić stresses the importance of the poultry industry in the national economy of Yugoslavia. In his opinion the great losses caused by parasites among poultry and game birds could be prevented if more attention were given to poultry diseases in veterinary education. Among the helminths found in poultry in Yugoslavia he lists: *Prosthogonimus ovatus, P. pellucidus, Echinostoma revolutum, Hypoderaeum conoideum, Echinoparyphium recurvatum, Notocotylus attenuatus, Metorchis xanthosomus, Davainea proglottina, Raillietina echinobothrida, R. tetragona, R. cesticillus, Amoebotaenia sphenoides, Choanotaenia infundibulum, Hymenolepis carioca, H. setigera, H. collaris, H. anatina, H. coronula, Drepanidotaenia lanceolata, Fimbriaria fasciolaris, Syngamus trachea, Acuaria hamulosa, Ascaridia lineata, A. galli, Heterakis gallinae, Capillaria annulata, C. retusa, C. longicollis, Cyathostoma bronchiale, Porrocaecum crassum, Amidostomum nodulosum, Tetrameres fissispina, Hystrichis tricolor, Ascaridia compar, Polymorphus boschadis, Filicollis anatis,* and *F. sphaerocephalus*. In most cases the author outlines the life-cycle, pathogenicity, prevention and, where possible, gives the method of treatment. C.R.

(954b) In his veterinary practice Repač dealt with 40 cases of parascariasis in horses. He gives the clinical picture of the disease and reports that after symptomatic treatment to improve the condition of the horse he obtained good results against *Parascaris equorum* with dosing with 2–3 capsules of "Crvomor". C.R.

(954c) Suić gives the details of control of *Echinococcus granulosus* in Argentina. During the period 1937–1948 there were 4,746 cases of hydatid in man in Argentina and according to his information the incidence of *E. granulosus* in dogs varies from 13%–21%. He gives details of the Argentinian Act 5220, Prophylaxis of Echinococcus and Rabies. C.R.

955—Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening i København.

a. ALLGÉN, C. A., 1951.—"Papers from Dr. Th. Mortensen's Pacific Expedition 1914–16. LXXVI. Pacific freeliving marine nematodes." 113, 263–411.

(955a) Hitherto no free-living marine nematodes have been reported from the islands of the central and northern regions of the Pacific Ocean. Allgén now describes 109 species, belonging to 44 genera, collected by Mortensen's 1914–1916 Pacific Expedition. One genus and 37 species are new. Four other species are not identified. Part 1 deals with 53 species collected in Hawaii; 22 are new. Part 2 describes 12 known species collected from the Philippines. Part 3 reports on 38 species [39 are listed], 36 from the Australian faunal region belonging to 22 genera; of these, six are new species. Part 4 is confined to a description of the male of *Pelagonema obtusicaudum*. Part 5 gives notes on marine nematodes from the Bay of Panama and the Californian coast. Of the 400 specimens collected belonging to 54 species, five are new to science, but two of them are not yet specifically named. The new genus, a remarkable leptosomatid, is named *Leptosomatina* n.g. with *L. longisetum* n.sp. as type and only species. It differs from *Leptosomatum* by the thick cuticle, the presence of strongly developed cephalic bristles, the absence of ocelles and by the shape and structure of the spicular apparatus. R.T.L.

956—Vie Médicale. Paris.

*a. PIERI, J., 1951.—" Diagnostic et traitement des parasitoses intestinales. I. Quelques reflexions sur les parasitoses intestinales en pratique médicale." **32** (11), 13–16.
*b. BAUMEL, J. & FASSIO, E., 1951.—" Diagnostic et traitement des parasitoses intestinales. II. Amibiase exceptée." **32** (11), 19–29.
*c. BERNIER, C. & DARBON, C., 1951.—" Diagnostic et traitement des parasitoses intestinales. III. Le laboratoire et la thérapeutique des parasitoses intestinales " **32** (11), 31–48.
*d. MARTINY, M., 1951.—" Diagnostic et traitement des parasitoses intestinales. Conclusions de l'enquête." **32** (11), 51–55.

957—Virginia Journal of Science.

a. HOLLAWAY, Jr., H. L., 1951.—" A morphological study of *Neoechinorhynchus cylindratus*, a typical representative of the Eoacanthocephala." [Abstract of paper presented at the 29th Annual Meeting of the Virginia Academy of Science, Lynchburg, Va., May 10–12, 1951.] **2** (4), 311.
b. HARGIS, Jr., W. J., 1951.—" A study of the monogenetic trematodes from the gills of Westhampton Lake fishes, with additional notes on other organisms taken from the gills." [Abstract of paper presented at 29th Annual Meeting of the Virginia Academy of Science, Lynchburg, Va., May 10–12, 1951.] **2** (4), 313.

(957a) This is an abstract which states that a detailed, morphological study of *Neoechinorhynchus cylindratus*, including a description of the male and female reproductive systems, has been made [but no details are given here] and that a new locality for this species has been established. R.T.L.

(957b) This is an abstract of a study on the monogenetic gill parasites of fish in Virginia. The mounting of Monogenea directly with Euparol, without staining, gives the required clarity as well as permanence. Hargis is of the opinion that the Monogenea are of some importance to fishery and play a part in the high spring mortality which occurs in some waters throughout Virginia. R.T.L.

958—Voprosi Pediatrii i Okhranii Materinstva i Detstva. Leningrad.

a. KROPACHEV, A. M., 1951.—[Primary pulmonary echinococcosis in children.] **19** (4), 53–56. [In Russian.]

959—Wiener Klinische Wochenschrift.

a. JETTMAR, H. M., 1951.—" Ascaris-Coelomflüssigkeit als Antibiotikum. (Vorläufige Mitteilung.)" **63** (6), 118.

(959a) [This preliminary communication deals with experiments which have been described in greater detail in *Z. Hyg. InfektKr.* 1952, **134**, 24–46: for abstract see Helm. Abs., **21**, No. 5482.]

960—Yokohama Medical Bulletin.

a. ISHII, N. & TSUDA, E., 1951.—" Possibility on the spreading of *Oncomelania nosophora*, the intermediate snail host of *Schistosoma japonicum*, in other areas besides its own habitats." **2** (6), 366–375.

(960a) *Oncomelania nosophora* from the schistosome area of Yamanashi will breed successfully on soils taken from Tokyo City, Mizonokuchi and Sakadomachi where the snail is not endemic. It is therefore concluded that the soil of this snail's natural habitats does not contain any specially favourable factor. Data are given on the relation between the number of snail eggs laid and the size of the container. Egg-laying started in May and ceased in October; the peak was reached in June. R.T.L.

961—Zeitschrift für Hygiene und Infektionskrankheiten.

a. STUDER, A. & FUST, B., 1951.—"Durch parenterale Behandlung mit Askaridenextrakt ausgelöste Gewebs- und Bluteosinophilie beim Meerschweinchen und ihre Beeinflussung durch Cortison." 133 (4), 327–343.

(961a) Studer & Fust sensitized guinea-pigs by the subcutaneous administration of an aqueous extract of whole Ascaris extract: this produced a blood eosinophilia correlated with the amount of extract given. Later, several intramuscular injections of Ascaris extract were given which caused tissue eosinophilia and symptoms of shock in sensitized but not in non-sensitized animals. There was no anaemia. Administration of cortisone in a dosage of 20 mg. per kg. body-weight led to a moderate reduction of eosinophilia: a dosage of 50 mg. per kg. body-weight had a pronounced inhibiting effect. No blood or tissue eosinophilia could be produced in rats by the administration of Ascaris extract. A.E.F.

962—Zeitschrift für Hygienische Zoologie und Schädlingsbekämpfung.

a. FREUND, L., 1951.—"Die Übertragung tierischer und pflanzlicher Parasiten durch blutsaugende Insekten." 39 (10/12), 310–313.
b. WELLMANN, G., 1951.—"Zu den Ausführungen 'Die Übertragung tierischer und pflanzlicher Parasiten durch blutsaugende Insekten' von L. Freund." 39 (10/12), 313–314.

963—Zhurnal Obshchei Khimii.

a. POSMOVSKI, I. Y. & PANYUKOVA, M. A., 1951.—[Syntheses of anthelmintic compounds of the coumarin series.] 21 (9), 1717–1720. [In Russian.]

(963a) Posmovski & Panyukova give methods for the synthesis of 2-keto-4-imino-6-hexyl-7-hydroxychromane and 4,7-dihydroxy-6-hexylcoumarin. These compounds, in amounts of 0·1 or 0·2 gm., gave toxic signs in cats and showed no anthelmintic activity. [The precise dose rate and the nature of the helminths examined is not stated.] W.P.R.

964—Zoologica. New York.

a. BANGHAM, R. V., 1951.—"Parasites of fish in the Upper Snake River drainage and in Yellowstone Lake, Wyoming." 36 (3), 213–217.

(964a) The helminths found in 14 species of fish in the Jackson Hole area and in Yellowstone Lake, Wyoming, U.S.A., are tabulated under each host species. 92·3% of the 2,535 fish examined carried at least one species of parasite. None of the helminths is new. R.T.L.

965—Zoological Magazine. Tokyo.

a. YAMAO, Y., 1951.—[Histochemical studies on the endoparasites. I. Distribution of acidic and alkaline glycerophosphatases in the intestinal cells of *Ascaris lumbricoides* L.] 60 (5), 101–105. [In Japanese : English summary.]

966—Zoologische Jahrbücher. Abteilung für Systematik, Ökologie und Geographie der Tiere.

a. ALLGÉN, C., 1951.—"Weitere Beiträge zur Kenntnis der Nematoden-Fauna des Trondheimsfjords." 80 (1/2), 1–26.
b. HIRSCHMANN, H., 1951.—"Über das Vorkommen zweier Mundhöhlentypen bei *Diplogaster lheritieri* Maupas und *Diplogaster biformis* n.sp. und die Entstehung dieser hermaphroditischen Art aus *Diplogaster lheritieri*. 1. Mitteilung." 80 (1/2), 132–170.
c. GERLACH, S. A., 1951.—"Freilebende Nematoden aus der Verwandtschaft der Gattung *Theristus*." 80 (3/4), 379–406.

(966a) Allgén lists 52 species of free-living nematodes, recovered from the shores of Tautra Island (Trondheim Fjord) in the summer of 1947, of which the following are described as new: *Enoplolaimus parapropinquus* n.sp., *Donsinema longisetum* n.g., n.sp., *Pseudonchus longus* n.sp., *Donsinemella camacolaimoides* n.g., n.sp., *Theristus donsi* n.sp. A.E.F.

(966b) Hirschmann shows that there are two distinct types of *Diplogaster lheritieri*, distinguished by their buccal cavities. The only type so far described is *D.l.* f. *stenostoma*; the other type, *D.l.* f. *eurystoma*, is described as new. *D. biformis* n.sp., a hermaphrodite species which is stated to be a descendant of *D. lheritieri*, is described and figured. The new species has the same differing types as *D. lheritieri* and these are given the same names, f. *stenostoma* and f. *eurystoma*. The morphology, biology and genetics of both species are discussed in detail and with many line drawings. A.E.F.

(966c) Gerlach describes and figures 19 species of free-living nematodes, belonging to *Theristus* and related genera, collected on the German North Sea and Baltic coasts. They include *Theristus hirtus* n.sp., *T. otoplanobius* n.sp., *T. pictus* n.sp., *T. ensifer* n.sp., *T. procerus* n.sp., *Steineria polychaetoides* n.sp., and *Diplolaimella deconincki* n.sp. A.E.F.

967—Zoologischer Anzeiger.

a. ALLGÉN, C. A., 1951.—"Das Männchen des *Pelagonema obtusicaudum* Filipjev von Port Jackson (Australien)." **146** (5/6), 127–128.
b. ALLGÉN, C., 1951.—"Über einige westschwedische terrestrisch lebende Nematoden." **146** (11/12), 354–357.
c. GERLACH, S. A., 1951.—"Drei bemerkenswerte neue Nematoden aus der Kieler Bucht." **147** (1/2), 37–43.
d. ALLGÉN, C., 1951.—"Über einige freilebende marine Nematoden von der Westküste Schwedens (Umgebung der Zoologischen Station Kristineberg)." **147** (9/10), 254–259.
e. HARTWICH, G., 1951.—"*Aprocta circumocularis* n.spec. (Nematoda), ein neuer Augenparasit aus der Nachtigall." **147** (11/12), 311–315.

(967a) Allgén describes and figures for the first time the male of *Pelagonema obtusicaudum* Filipjev, 1918. The specimen (which was found at Port Jackson, Australia) was among a collection of free-living marine nematodes made by Mortensen in the Pacific in 1914–16 and preserved in the Copenhagen Museum. A.E.F.

(967b) Allgén describes and figures three free-living nematodes recovered from mud at Kristineberg on the west coast of Sweden in 1946. The species are: *Araeolaimus longicauda* Allgén, 1929 (one immature form), *Camacolaimus glauxicola* n.sp. (two females), and *Rhabditis glauxi* n.sp. (one female). A.E.F.

(967c) Gerlach describes and figures the following free-living marine nematodes from Kiel Bay: *Acantholaimus polydentatus* n.sp., *Araeolaimus nudus* n.sp., and *Paraterschellingia fusiforme* n.sp. A.E.F.

(967d) Allgén describes and figures seven species of free-living marine nematodes found near the Kristineberg Zoological Station on the west coast of Sweden. Only one—*Dolichosomatum klatti* n.g., n.sp.—is new. A.E.F.

(967e) Hartwich describes and illustrates *Aprocta circumocularis* n.sp., recovered from the eye of a nightingale, *Luscinia megarhynchos megarhynchos*, in the Halle district of Saxony. The new species differs from other members of the genus principally in the absence of pre- and post-anal papillae, length of spicules, relative length of oesophagus, position of vulva, and absence of buccal papillae. A.E.F.

968—Zoology Publications from Victoria University College, Wellington, New Zealand.

a. LAIRD, M., 1951.—"A contribution to the study of Fijian Haematozoa with descriptions of a new species from each of the genera *Haemogregarina* and *Microfilaria*." No. 10, 15 pp.
b. MANTER, H. W., 1951.—"Studies on *Gyrocotyle rugosa* Diesing, 1850, a cestodarian parasite of the elephant fish, *Callorhynchus milii*." No. 17, 11 pp.

(968a) Only eight of the 497 domestic and wild animals examined in Fiji had haematozoa. Two helminth species were found, viz., *Dirofilaria immitis* which occurred in five out of nine dogs, and *Microfilaria mynah* n.sp. from the heart blood of one out of

four specimens of *Acridotheres tristis tristis* shot on the Wainimbuka River, Viti Levu. In *M. mynah* the width at the anterior end is the same as that of the rest of the body and the tail tapers to a fine point, whereas in *M. acridotheris*, described from the same host in India, the anterior end is enlarged compared with the breadth of the body, and the posterior extremity is obtusely pointed or abruptly truncated. R.T.L.

(968b) *Gyrocotyle rugosa* is redescribed from *Callorhynchus milii* in New Zealand. The lycophore larva has three pairs of transparent vesicles, considered to be gland cells, in the anterior half of the body, a large bilobed organ, relatively large hooks and one pair of flame cells. Numerous very small post-larval stages were present in the mucus of the anterior portions of the spiral valve and these may have reached the mucosa by way of the blood stream. The eggs hatch almost immediately in sea water. The ciliated lycophore larvae readily penetrate pieces of spiral valve tissue and blood vessels. This attraction suggests a direct life-cycle in the definitive host. R.T.L.

NON-PERIODICAL LITERATURE

*969—ANON., 1951.—" Conference on parasites and parasitic diseases of sheep." Belle Fourche, South Dakota : United States Bureau of Animal Industry, 12 pp.

*970—ANON., 1951.—" Golden nematode control." Washington, D.C.: United States Bureau of Entomology and Plant Quarantine, 1 p.

*971—BAIR, T. D., 1951.—" The relation of oxygen tension to oxygen consumption in *Rhabditis strongyloides* and other nematodes." Thesis, University of Illinois, 67 pp.

Using a micro-Winkler technique, Bair has demonstrated the effect of changes in the oxygen consumption with increased oxygen tension in *Rhabditis elegans, R. strongyloides* (from skin lesions of a cow) and in small horse strongyle larvae. In *R. elegans* consumption increased with tension until a tension of about 121·5 mm. of mercury was reached, in *R. strongyloides* until about 58·5 mm. mercury was reached and in the horse strongyle larvae there was very little change, oxygen consumption remaining low and constant. The survival time of *R. strongyloides* and *Rhabditella axei* increased in a linear fashion with oxygen tension. [Based on an abstract in *Microfilm Abstracts*, 11, 1134–1135.] S.W.

972—BERGSTERMANN, H., MENDHEIM, H. & SCHEID, G., 1951.—"Die parasitischen Würmer des Menschen in Europa. Ihre Biologie, Pathologie und Therapie." Stuttgart : Ferdinand Enke, viii + 199 pp.

*973—BORMAN, E. K., 1951.—" Nomenclature of pathogenic and parasitic organisms." Hartford : Connecticut State Department of Health, 2nd edit., 70 pp.

974—BRAND, G., 1951.—" Hygienische Bedeutung der Schweine-Askariasis." Dissertation, Munich, 44 pp. [Mimeographed.]

Brand has found 72 (18·4%) of 391 pigs examined in the district of Kircheimbolanden (Lower Rhine Palatinate) infected with *Ascaris lumbricoides*; 80 (20·8%) had stomach worms and in five pigs both infections were present. *Trichuris trichiura* was found in 10 pigs (2·5%) and *Strongyloides papillosus* in five (1·3%). Attempts to transmit the human strain to 4-month-old pigs produced in one case migrating larvae in the lungs [determined by the

presence of pulmonary symptoms] but in no case could adult worms be found in the intestine. No epidemiological relationship between human and pig ascariasis could be discovered. Brand puts forward three recommendations for the control of pig ascariasis: (i) treatment of sows before mating, (ii) strict hygiene in pig sties during and after farrowing; (iii) treatment of all breeding sows, even with negative faeces, whose eosinophil count is over 3·5%. A.E.F.

*975—BRUMPT, E. & NEVEU-LEMAIRE, M., 1951.—"Praktischer Leitfaden der Parasitologie des Menschen: für Biologen, Ärzte, Tropenhygieniker und Studierende. 2.Auflage, übersetzt und bearbeitet nach der 4.französischen Auflage von A. Erhardt." Berlin-Göttingen-Heidelberg: Springer-Verlag, 326 pp.

*976—CASTRO SOTO, R., 1951.—"Triquina y cisticercosis como factores antieconómicos en la industria del cerdo." Thesis, Escuela Nacional de Medicina, Veracruz, Mexico.

*977—CHURCHILL, H. M., 1951.—"Germ cell cycle of *Echinostoma revolutum* (Froelich, 1802) (Echinostomatidae: Trematoda)." Thesis, University of Michigan, 88 pp.

While working on the germ cell cycle of *Echinostoma revolutum* Churchill has shown that the miracidia develop into sporocysts, not rediae. In the adult there were two maturation divisions during gametogenesis and the diploid number of chromosomes (22) was restored by the fusion of the gametes. The first cleavage division was always unequal, the second cleavage involving only the larger cell; the smaller is termed "propagatory" and although germinal lineage could not be demonstrated it is concluded, from a study of all generations, that reproduction in *E. revolutum* can be interpreted as germinal lineage with polyembryony. [Based on an abstract in *Microfilm Abstracts*, **11**, 470–471.] S.W.

978—DAUB, M., 1951.—"Untersuchungen über die Wirksamkeit von W.T.249 gegen Befall mit Eingeweidenematoden des Geflügels." Dissertation, Giessen, 23 pp.

Daub has tested "W.T.249" Merck (propionic ester of *p*-tertiary-amyl phenol), a yellow oily fluid supplied in gelatin capsules, against intestinal nematodes in fowls. Of 20 birds treated for Ascaridia and Heterakis infections (dose, 0·8 gm. to 1·2 gm. per kg. body-weight) five were completely cured and in seven others infection was greatly reduced. Since ova begin to reappear in the faeces after a lapse of three to four weeks a second dose is essential, four to six weeks after the first. Against Capillaria (dose 0·8 gm. to 1·0 gm. per kg. body-weight) the substance was successful in four out of six cases; here again a second dose is necessary. Combined treatment with "W.T.249" and liquid paraffin was particularly successful against Capillaria. Daub concludes that "W.T.249" shows promise in the treatment of intestinal nematodes in fowls. A.E.F.

979—DORNOY, J. M., 1951.—"La réaction de Maclagan dans quelques affections exotiques." Lyons: Bosc Frères, 84 pp.

Although Maclagan's thymol turbidity test seldom gave positive results in helminth infections, it appeared to be of some use in schistosomiasis with hepatic manifestations. R.T.L.

980—ESPÍRITO SANTO, J. DO, 1951.—"Marcha evolutiva da hidatidose no Rio Grande do Sul." Congresso Brasileira de Veterinária, São Paulo, 5th (1950). Anais, pp. 609–621.

981—EUROPEAN PLANT PROTECTION ORGANIZATION, 1951.—"Report of Quarantine Working Party. (i) Potato root eelworm (*Heterodera rostochiensis*). (ii) Potato root eelworm sampling in connection with the export of plants from England & Wales." Paris: European Plant Protection Organization, pp. 11, 15–16. [Also in French pp. 4–5, 8–9.]

The Quarantine Working Party of the European Plant Protection Organization has examined the quarantine restrictions imposed by governments in relation to the more important pests and diseases affecting international trade. They consider that there is no

scientific justification for prohibiting the entry of potatoes or other planting material into countries where *Heterodera rostochiensis* is known to be widely established, but where it has been shown not to exist, it may be reasonable to prohibit the entry of potatoes and tomato plants but not of other planting material. Exporting countries should be required to operate an effective soil sampling system and the Working Party urge on all countries the adoption of a uniform system. Governments are recommended to prohibit or discourage growing of potatoes in nurseries. An appendix describes the method followed in connection with the export of plants from England and Wales and reproduces the form used for the posting on of soil samples. R.T.L.

982—EUROPEAN PLANT PROTECTION ORGANIZATION, 1951.—"Potato root eelworm." Paris: European Plant Protection Organization. Technical discussions at 1st Council Meeting, April 18–21, 1951, pp. 21–27. [French summary p. 21.]

The geographical distribution of *Heterodera rostochiensis* in England, Wales, Scotland, Northern Ireland, Jersey and the Republic of Ireland is outlined. It is absent from Spain, the Saar and Norway. In Denmark and Finland the infection is negligible. R.T.L.

*983—FRAUER, M., 1951.—"Parasitäre Haustiererkrankungen im Kreis Nürtingen." Dissertation, Giessen, 76 pp.

984—FRÜH, O., 1951.—"Untersuchungen über die Wirksamkeit des Askaridol-Schenck Synth. (-Askarisin Knoll) beim Befall des Geflügels mit Eingeweidenematoden und über seine Verträglichkeit beim Spulwurmbefall von Welpen." Dissertation, Giessen, 27 pp.

The synthetic ascaridol preparation "Askarisin" Knoll has been tested by Früh in the treatment of Ascaridia in fowls and Toxocara in puppies. Twenty-two out of 24 fowls (weighing from 1·5 kg. to 2·0 kg.) given a dose of 0·1 gm. followed by 15 c.c. of castor oil were completely freed of Ascaridia. The drug was well tolerated; birds given as much as 0·53 gm. per kg. body-weight were completely unaffected. Four out of five puppies (infected with Toxocara) given 0·03 gm. per kg. body-weight, followed by a purgative, were cured. Here again the therapeutic dose was far lower than the toxic dose. "Askarisin" was not effective against Capillaria in fowls. A.E.F.

*985—GIBSON, C. L., 1951.—"Parasitological studies on onchocerciasis in Guatemala." Thesis, University of Michigan, 106 pp.

Gibson found that of 1,167 laboratory-bred *Simulium metallicum*, *S. ochraceum*, *S. callidum* and *S. downsi* only 14 (of which 11 were *S. downsi*) could be induced to feed on human volunteers. Techniques were developed to maintain wild simuliids in the laboratory up to a maximum of 13 days, although 50% of these could not be kept alive more than two days and only 5% survived one week. One out of three horses autopsied was infected with *Onchocerca reticulata* and 87·2% of 148 cattle with *O. gutturosa*. *O. volvulus* appears to develop only as far as the "sausage" stage in *S. ochraceum*; developing larvae were recovered from *S. metallicum* and *S. callidum* seven days after infection but *S. callidum* showed a greater mortality after infection than did the other two *Simulium* spp. Microfilariae migrate to the thoracic muscles after a maximum of 24 hours. On the fourth day growth begins, the oesophagus, intestine, rectal plug and subcuticular cells are distinct; on the fifth day the intestinal lumen is visible; on the sixth day the genital anlage appears but no further differentiation could be distinguished on the seventh day although increase in size continued. No further observations could be made. Hetrazan was shown to be valueless in preventing transmission of onchocerciasis. [Based on an abstract in *Microfilm Abstracts*, **11**, 472–474.] S.W.

*986—GOLDSCHMIDT, K., 1951.—"Beiträge zur Nemuralbehandlung des Hundes bei Bandwurmbefall sowie bei Mischinfektion von Band- und Spulwürmern." Dissertation, Giessen, 53 pp.

987—GRADWOHL, R. B. H., BENITEZ SOTO, L. & FELSENFELD, O. [Editors], 1951.—"Clinical tropical medicine." St. Louis : The C. V. Mosby Co. (London : Henry Kimpton), xxiii + 1647 pp.

988—HABERKERN, W., 1951.—"Die Darmflora des Schafes mit besonderer Berücksichtigung der Verteilung des *Bacterium coli* in verschiedenen Darmabschnitten und die Bedeutung der Leberegelkrankheit bei Schafen." Dissertation, Munich, 45 pp.

Haberkern's researches on the intestinal flora of sheep in sickness and in health show that, in animals infected with liver-fluke, *Bacterium coli* flourishes principally in the duodenum and the gall-bladder; it is less frequent in the ileum while incidence in the rectum is about the same as in healthy sheep. In 13 cases of liver-fluke disease aerogenic bacteria could be cultured from various parts of the intestine, particularly the gall-bladder. In ill-nourished sheep gram-positive bacteria predominated but in well fed animals there was an even balance between gram-positive and gram-negative organisms. A.E.F.

989—INTERNATIONAL CONGRESS ON FILARIASIS, 1951.—"Conference of Experts on Filariasis and Elephantiasis, Papeete, Tahiti, August 21 to September 1, 1951. Annotated bibliography on filariasis, elephantiasis and related aspects in the South Pacific area prepared by E. Massal & J. Kerrest." Tahiti : South Pacific Commission, 20 pp. [Mimeographed.]

990—INTERNATIONAL CONGRESS ON FILARIASIS, 1951.—"Conference of Experts on Filariasis and Elephantiasis, Papeete, Tahiti, August 21 to September 1, 1951. Progress report No. 9. Appendix to Annex II." Tahiti : South Pacific Commission, 8 pp. [Mimeographed.]

*991—KLEMME, F. A., 1951.—"Verbreitung parasitärer Tierkrankehiten im Kreise Hanau a. M." Dissertation, Giessen, 37 pp.

*992—KLENNER, W., 1951.—"Die Verbreitung parasitärer Tierkrankheiten in Bremen und im Kreise Verden." Dissertation, Giessen, 36 pp.

*993—KRUIDENIER, F. J., 1951.—"Mucoproteins in digenetic trematodes." Thesis, University of Michigan, 386 pp.

In virgulate, armate, ornate, opisthorchoid and certain microcercous groups of cercariae, mucoid glands, paired and homologous, develop ventrally from the oral sucker to the tail stem. Neither the glands nor the stainable mucoids have so far been demonstrated in the Agilis, Megalura, Gorgonocephala, echinochasmid or cotylocercous cercariae. In monostome and fasciolid cercariae the mucoids are apparently used up before the cercariae emerge from the snail hosts. In adult Digenea (especially *Paragonimus kellicotti*) the mucoids are produced by strongly metachromatic subcuticular glands and are widely distributed. Mucoids are present in the gut epithelium, the vitelline cells, the oocytes, and are more concentrated in spermatocytes and spermatozoa. They form a reticulum in the cells of Mehlis' gland and are present in neurones and parenchyma cells. Variably metachromatic glands are found associated with the mouth, pharynx, oesophagus, excretory duct, Laurer's canal, genital atrium, vas deferens and metraterm. Strongly metachromatic glands are associated with and enclosed in the suckers. [Based on an abstract in *Microfilm Abstracts*, **11**, 474–475.] S.W.

*994—MAIRE, P., 1951.—"Le parasitisme prénatal chez les animaux domestiques." Thesis, Paris, 63 pp.

*995—MAPES, C. R., 1951.—"A study of *Dicrocoelium dendriticum* (Rudolphi, 1819) Looss, 1899 (Trematoda : Dicrocoeliidae) and *Dicrocoelium* infection." Thesis, Cornell University, 179 pp.

Mapes reviews the literature on *Dicrocoelium dendriticum* and has studied this fluke in the field and in the laboratory. He discusses the taxonomy, geographical distribution, life-history, epidemiology, symptomatology, pathology and treatment and records two new definitive hosts, the common woodchuck and the white-tailed deer, and a new intermediary, *Cionella lubrica*. [Based on an abstract in *Vet. Bull.*, **22**, p. 26.] S.W.

*996—MARQUES, R. J., 1951.—" Esquistossomose mansônica pulmonar." Thesis, Recife.

997—MEIRA, J. A., 1951.—" Esquistosomiase mansoni hépato-esplênica." Thesis, São Paulo, 607 pp.

In this extensive memoir, Meira reviews the history of splenomegaly and hepatic enlargement due to schistosomiasis mansoni. He then gives an account of his own studies on 65 patients and the effects of various forms of treatment. R.T.L.

*998—MENGERT, H., 1951.—" Beiträge zur Systematik und Oekologie der Nematoden." Dissertation, Erlangen.

999—MEYER, M. C., 1951.—" Hirudinea." Exploration du Parc National Albert. Mission G. F. de Witte (1933–35). Brussels. Fasc.76, 29 pp.

Helobdella conifera, Placobdella pulchra, P. multistriata, P. (*Parabdella*) *stuhlmanni, Salifa perspicax, Hirudo hildebrandti, Limnatis fenestrata* and *L. buntonensis* n.sp. were collected by de Witte between 1933 and 1935 in the Albert National Park, Belgian Congo. The new species, now described by Meyer, differs from *L. fenestrata* in having seven dorsal, non-fenestrated longitudinal stripes and by the penis sac which folds longitudinally only once, from other species with *Hirudinaria*-like sensillae by the number of teeth (70–85), and from *L. obscura* by its peculiar sensillae and by differences in the male reproductive system. P.M.B.

*1,000—OGOSHI, S., 1951.—" A study on schistosomiasis in cattle." Tokyo University : Veterinary Division, Agricultural College, pp. 179–186.

Ogoshi found that in 1944 10·5% of 661 cattle in the Kofu Basin, Yamanashi district were infected with *Schistosoma japonicum*. In 1950 the incidence in 2,051 cattle was 43·4%. The incidence in man in the same area was 1·0% in 1944 and 6·2% in 1950. [Based on an abstract in *Vet. Bull.*, **22**, p. 473.] S.W.

*1,001—PAVLOVSKI, E. N., 1951.—[Manual of parasitology of human beings, with instruction on carriers of transmissible diseases.] Leningrad : 6th edit., 415 pp. [In Russian.]

1,002—PAYER, H. W., 1951.—" Versuche und Untersuchungen über verschiedene Gebiete aus der Biologie von *Trichinella spiralis*." Dissertation, Munich, 23 pp.

Payer has carried out a series of experiments on golden hamsters, rats and mice in an attempt to elucidate certain problems in the bionomics of *Trichinella spiralis*. His results show that (i) lowered metabolism during hibernation does not inhibit the development of infection; (ii) injection of heart muscle preparations does not set up immunity to Trichinella; (iii) both the digestive action of gastric juice and the mechanical efforts of larvae to free themselves play a part in the liberation of larvae from their capsules; (iv) feeding of trichinous meat causes a temporary occlusion of the pylorus which gives the necessary time for the development of mature worms in the stomach. A.E.F.

1,003—PESSÔA, S. B., 1951.—" Parasitologia médica." Rio de Janeiro : Editora Guanabara Waissman Koogan Ltda., 3rd edit., 885 pp.

1,004—RENNER, H., 1951.—" Über die Möglichkeit der Verbreitung von *Ascaris lumbricoides* durch Abwasserverregnung und Düngung mit Abwasserschlamm." Dissertation, Munich, 36 pp. [Mimeographed.]

Renner has studied the possible effect on the spread of human ascariasis of the use of dried sewage sludge and of sewage effluent for the manuring of agricultural land, with special reference to the Munich area. He finds that, after sewage has been treated, most Ascaris ova are concentrated in the sludge and that the ratio of the very small number of

ova in fields treated with sludge and effluent respectively is 7:1. No ova were found on green plants. None of the eggs recovered from the soil was embryonated and most showed obvious signs of degeneration. Renner concludes that the agricultural use of sludge and effluent from Munich sewage works carries no risk of spreading human ascariasis. A.E.F.

*1,005—SCHAPIRO, M. M., 1951.—"A manual of parasitology for medical students and beginners." New York: Greene & Stratton, Inc., v+140 pp.

1,006—SCHINDLER, S., 1951.—"Über die Coli-Agglutininbildung im Blutserum von Haustieren mit besonderer Berücksichtigung leberegelkranker Schafe." Dissertation, Munich, 56 pp. [Mimeographed.]

Schindler has studied the agglutination of *Bacterium coli* in the sera of domestic animals. Strains of *B. coli* isolated from the gall-bladder of sheep infected with liver-fluke were more toxic when injected subcutaneously into white mice than strains from the intestines of healthy sheep. No great difference was found between the *B. coli* agglutination in healthy and infected sheep. A.E.F.

*1,007—SCHMITT, W., 1951.—"Beiträge zur Kenntnis von Phenothiazin als Anthelminthikum bei grossen Haustieren." Dissertation, Giessen, 38 pp.

*1,008—SCHÖNIGER, D., 1951.—"Behandlungsversuche bei der Lungenwurmseuche des Rindes mit Toluol, Petroleum und Jod-Surfen." Dissertation, Hanover, 44 pp.

*1,009—SKARBILOVICH, T. S., 1951.—[Diseases of agricultural plants caused by nematodes.] Moscow: Selkhozgiz, 54 pp. [In Russian.]

1,010—SKRYABIN, K. I., 1951.—[Trematodes of animals and man. Principles of trematodology. Volume V.] Moscow & Leningrad: Izdatelstvo Akademii Nauk SSSR, 624 pp. [In Russian.]

This fifth volume of Skryabin's comprehensive series of monographs on trematodes of animals and man is devoted to the Schistosomatata. Schistosomatata now redefined is split into Schistosomatoidea Stiles & Hassall, 1926 and a new superfamily, Sanguinicoloidea Skryabin, 1951. Schistosomatoidea contains only Schistosomatidae in which are put (i) Schistosomatinae for *Schistosoma, Austrobilharzia, Bivitellobilharzia, Heterobilharzia, Microbilharzia, Macrobilharzia, Ornithobilharzia* and *Schistosomatium*; (ii) Bilharziellinae for *Bilharziella, Chinchuta, Pseudobilharziella* and *Trichobilharzia*; (iii) Dendritobilharziinae for *Dendritobilharzia* and (iv) Gigantobilharziinae for *Gigantobilharzia*. The new superfamily Sanguinicoloidea Skryabin, 1951 contains Spirorchidae and Sanguinicolidae. Spirorchidae is divided into (i) Spirorchinae for *Spirorchis, Diarmostorchis, Learedius, Plasmiorchis, Spirhapalum, Monticellius* and *Hemiorchis*; (ii) Hapalotrematinae which covers *Hapalotrema, Amphiorchis, Coeuritrema, Hapalorhynchus, Vasotrema, Enterohaematotrema* and *Carettacola*; (iii) Unicaecuminae which contains only *Unicaecum* and (iv) Neospirorchinae n.subf. Skryabin, 1951 a new subfamily created for *Neospirorchis* Price, 1934. Keys are given for the differentiation of all these systematic groups. There are also two chapters, one on schistosomiasis and the other on cercarial dermatitis, written by Schulz and one chapter on immunity against schistosomes written by Schulz & Davtyan. The text extends to 624 pages of which 149 are devoted to text figures chiefly reproduced as line drawings from other publications. The bibliographies which are added at the end of the text dealing with each family cover recent literature only. R.T.L.

1,011—SKRYABIN, K. I., SHIKHOBALOVA, N. P. & MOZGOVOI, A. A., 1951.—[Descriptive catalogue of parasitic nematodes. Volume 2. Oxyurata and Ascaridata.] Moscow : Izdatelstvo Akademii Nauk SSSR, 631 pp. [In Russian.]

The second volume of this systematic revision of the Nematoda is undertaken by Skryabin, Shikhobalova & Mozgovoi and covers the Oxyurata and Ascaridata. The necessary diagnoses are now provided for the various systematic groups listed in "A reconstruction of the classification of nematodes of suborder Oxyurata Skryabin, 1923" published by Skryabin & Shikhobalova in 1951. [For abstract see No. 942a above.] R.T.L.

1,012—SPASSKI, A. A., 1951.—[Principles of cestodology, edited by K. I. Skryabin. Volume I. Anoplocephalata—tapeworms of domestic and wild animals.] Moscow : Izdatelstvo Akademii Nauk SSSR, 735 pp. [In Russian.]

This monograph is divided into two parts, general and systematic. In the first part there are six chapters dealing with the history, general morphological-anatomical characteristics and morphological-anatomical features of the Anoplocephalata, stages in ontogenesis and the life-cycle, the geographical distribution and an attempt to explain phylogenetic relationships in the Anoplocephalata. In the second part Spasski deals with the superfamily Anoplocephaloidea. In the Anoplocephalidae (subfamily Anoplocephalinae) he includes the following genera: *Anoplocephala, Aporina, Bertiella, Coelodela, Ctenotaenia, Flabelloskrjabinia* n.g., *Fuhrmannodes, Hemiparonia, Moniezioides, Mosgovoia, Parabertiella, Paramoniezia, Paranoplocephala, Paronia, Progamotaenia, Pseudonoplocephala, Schizorchis, Taufikia, Triplotaenia* and *Triuterina.* In the subfamily Monieziinae are included the genera *Moniezia* (subgenera *Moniezia, Blanchariezia* and *Baeriezia*), *Andrya, Aprostatandrya* (subgenera *Aprostatandrya* and *Sudarikovina* n.subg.), *Cittotaenia, Diandrya, Fuhrmannella* and *Monoecocestus.* In the Avitellinidae, the subfamily Avitellininae includes the genera *Avitellina* and *Stilesia*; the subfamily Thysanosomatinae, the genus *Thysanosoma;* and the subfamily Thysanieziinae, the genus *Thysaniezia.* The family Linstowiidae includes the subfamily Linstowiinae with the genera *Linstowia* (subgenera *Linstowia, Paralinstowia* and *Opossumia* n.subg.), *Atriotaenia* (subgenera *Atriotaenia* n.subg. and *Ershovia* n.subg.), *Cycloskrjabinia* n.g., *Mathevotaenia, Multicapsiferina, Oochoristica, Oschmarenia* n.g. (with subgenera *Oschmarenia* n.subg., *Inversia* n.subg., and *Morosovella* n.subg.), *Panserina, Semenoviella* n.g. and *Sobolevina* n.g., the subfamily Inermicapsiferinae with *Inermicapsifer, Metapsifer* n.g., and *Pericapsifer* n.g., and *Thysanotaenia.* The family Catenotaeniidae contains the genera *Catenotaenia* and *Skrjabinotaenia.* There are 8 new genera and 7 new subgenera. The monograph is provided with many keys and tables, 291 illustrations and an index to species (263), subgenera, genera, subfamilies, families and their synonyms. There are 927 references (out of which 271 are in Russian) and a host list. C.R.

*1,013—SPENGLER, K. W., 1951.—" Die parasitären Erkrankungen der Haustiere im Main-Taunus-Kreis." Dissertation, Giessen, 42 pp.

*1,014—THOM, K. L. B. L., 1951.—" Vergleichende Versuche mit Asol-Höchst, Ascaridol-kapseln, Ascaridol-dragees und dem Wurmittel 'S' Höchst bei verschiedenen Erkrankungen des Hundes insbesondere der Ascariasis." Dissertation, Giessen, 56 pp.

1,015—UNITED NATIONS SCIENTIFIC CONFERENCE ON THE CONSERVATION AND UTILIZATION OF RESOURCES, Lake Success, New York, August 17 to September 6, 1949.

*a. MINETT, F. C., 1951.—" Livestock diseases and pests." Proceedings, Vol. 6, pp. 467–470.
*b. FOSTER, A. O., 1951.—" Internal parasites of livestock." Proceedings, Vol. 6, pp. 481–485.
*c. TAYLOR, E. L., 1951.—" Internal and external parasites of livestock." Proceedings, Vol. 6, pp. 485–488.

(1,015c) Taylor reviews the economic losses in livestock caused by helminths, protozoa and arthropods in the U.S.A. and Great Britain and describes some recent advances in epidemiology, anthelmintics and control. He stresses the need for the rapid application of

advances in knowledge, for more effective propaganda in order to overcome prejudices against suggested treatments and control measures, and for continuity in research on problems of control. [Abstracted from a mimeographed reprint.] S.W.

1,016—UNITED STATES BUREAU OF ENTOMOLOGY & PLANT QUARANTINE, 1951.—" The golden nematode. A new potato menace." Washington, D.C.: United States Department of Agriculture, No. PA 184, 8 pp.

In the U.S.A. all States are participating in a nation-wide survey to determine the presence or absence of *Heterodera rostochiensis* in potato or tomato growing areas. [Up to the present the infection has been found only in Long Island, N.Y.] This official bulletin briefly outlines the agencies of spread, seasonal development, methods of soil sampling and examination, and control measures. A method of killing the parasites on farm machinery developed by Cornell University utilizes methyl bromide under a gas-proof tarpaulin. Persons not accustomed to handling fumigants are cautioned against use of this poisonous gas until they are familiar with the necessary precautions. R.T.L.

1,017—VERDUN, P. & MANDOUL, H., 1951.—"Précis de parasitologie humaine." Paris : G. Doin et Cie, 5th edit., xiv+556 pp.

*1,018—WATANABE, S., 1951.—" On stephanuriasis in the pig." Tokyo University: Veterinary Division, Agricultural College, pp. 196–205.

Stephanurus dentatus ova and larvae can hatch and develop to the infective stage 25 cm. below the surface of water. Ova are sensitive to low temperatures and are unable to hatch below 10°C.; ova and larvae are sensitive to high temperatures and desiccation. [Based on an abstract in *Vet. Bull.*, **22**, p. 474.] S.W.

INDEXES

NOTE

In all indexes the reference is to the serial numbers and not to the pages. Numbers in **bold** type indicate abstracts, and numbers in Roman type refer to title-only entries.

In the Author Index there are no cross-references to show joint authorship, but authors of joint papers are listed individually. Thus, a paper by "Brown, B., Jones, A. & Smith, J." would have three separate entries, "Brown, B.", "Jones, A.", and "Smith, J.".

In the Index of Subjects, alphabetization is under the first word (e.g. "*Acer* sp." before "*Acerina* sp."). Under the generic name of a helminth the following order is observed: papers on the genus as such; papers on undefined species; papers on new and defined species, e.g.

Capillaria
— spp.
— *aerophila*
— *amarali* n.sp.

In cross-entries under names of hosts, the specific names of new species of helminths are omitted. *Anthelmintics* are listed under that word, under the name of the parasite or disease, and under the name of the host. *Nematicides* for plant eelworms are listed separately under that word and under the name of the parasite.

INDEX OF AUTHORS

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CORRIGENDA

Serial No.	
52g (Abstract)	Line 2 For "*A. braziliense*" read "*A. ceylanicum*"
69j (Abstract)	Line 4 For "*Pternistes*" read "*Pternistis*"
72a (Title)	*For* "RAUL, A., PIAGGIO BLANCO, R. A., ROGLIA, L., PERTUSSO, J. C. . . ." *read* "PIAGGIO BLANCO, R. A., ROGLIA, J., PERTUSSO, J. . . ."
332a (Title)	For "*Schistosoma rodhain*" read "*Schistosoma rodhaini*"
332c (Abstract)	Lines 2, 3 & 5 *For* "Rhat" *read* "Ghat"
594c (Abstract)	Line 3 For "*Apophallus*" read "*Aphallus*"

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